Class T C425

Book M7 A5

1915

copy 2

64TH CONGRESS, 1st Session. } HOUSE OF REPRESENTATIVES. { DOCUMENT No. 463.

MISSOURI RIVER FROM KANSAS CITY, MO., TO THE MOUTH.

LETTER

FROM

THE SECRETARY OF WAR,

TRANSMITTING,

WITH A LETTER FROM THE CHIEF OF ENGINEERS, REPORT ON REEXAMINATION OF MISSOURI RIVER FROM KANSAS CITY, MO., TO THE MOUTH.

JANUARY 4, 1916.—Referred to the Committee on Rivers and Harbors and ordered to be printed, with illustrations.

WAR DEPARTMENT,
Washington, December 17, 1915.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

SIR: I have the honor to transmit herewith a letter from the Chief of Engineers, United States Army, of this date, together with copy of a report from Lieut. Col. Herbert Deakyne, Corps of Engineers, dated April 22, 1915, on reexamination of the Missouri River, from Kansas City, Mo., to the mouth, made by him in compliance with the provisions of the river and harbor act approved March 4, 1915.

Very respectfully,

LINDLEY M. GARRISON,
Secretary of War.

WAR DEPARTMENT,
OFFICE OF THE CHIEF OF ENGINEERS,
Washington, December 17, 1915.

From: The Chief of Engineers, United States Army.
To: The Secretary of War.
Subject: Reexamination of the Missouri River, Kansas City to mouth.

1. There is submitted herewith for transmission to Congress report dated April 22, 1915, by Lieut. Col. Herbert Deakyne, Corps of

Engineers, on reexamination of the project for improvement of Missouri River, Mo., mouth to Kansas City, directed by the river and harbor act approved March 4, 1915.

2. The existing project was formally adopted by the act of July 25, 1912, although the first appropriation was made by the act of June 25, 1910. The project provides for securing a permanent channel 6 feet deep between Kansas City and the mouth, at an estimated cost of $20,000,000, to be completed, except for maintenance, in 10 years. The work includes the removal of snags and the regulation and contraction of the channel by means of bank revetment and dikes. The estimated cost of maintenance of the completed project is $500,000 per year. There has been appropriated or allotted for this work a total of $6,250,000 in six years, or at the rate of a little more than $1,000,000 a year, while the project calls for $2,000,000 a year. The district officer analyzes the project on the basis of cost and benefits, and expresses the opinion that present and reasonably prospective commerce is not sufficient to warrant its continuance. He recommends that the present project be modified so as to provide for snagging alone, at an estimated cost of $40,000 per year, and that all other work be stopped. The division engineer concurs with the district officer as to the discontinuance of the present project for permanent work, but believes that the work already done should not be completely abandoned, and he recommends an annual appropriation of $150,000 for snagging and the maintenance of existing work.

3. This report has been referred, as required by law, to the Board of Engineers for Rivers and Harbors, and attention is invited to its report herewith, dated December 8, 1915. On account of the importance of the subject, the board made a personal inspection of the river and held a public hearing at Kansas City on October 19 and 20, 1915. The board finds that the general method of improvement is well adapted to this stream and if systematically applied under adequate appropriations, will result in a permanent channel depth of 6 feet or more. The board suggests the temporary use of dredging at a few of the most obstructive crossings to facilitate low-water navigation while the permanent work is under construction. The board believes that if any improvement is undertaken aside from snagging it should be under the plan of complete improvement contemplated by the existing project.

4. At the time the adoption of the present project was under consideration, and with the understanding that improvement of the river would follow the establishment of actual navigation of a substantial character, a number of shippers and other business men of Kansas City organized a company for the purpose of operating a line of boats especially designed to meet the requirements of navigation on this river. The company has adopted the towboat and barge method of navigation and has taken steps to remedy certain conditions that have contributed largely to the decline of transportation on our western rivers. It uses terminal facilities at Kansas City and East St. Louis, having mechanical devices for transfer of freight, and these terminals have direct rail connections, thereby facilitating the transfer of freight from rail to boat or vice versa. It is handling commerce on through bills of lading under joint traffic arrangements with connecting rail and water carriers. It receives and delivers goods in cars on shippers' sidings, paying switching charges within certain

D. of D.
APR 8 1916

TC424
M1A5
1915
copy 2

limits, transferring to and from the boat, assuming carriers' risk in lieu of marine insurance and transporting between terminals, all at a rate of 80 per cent of the corresponding rail rate. It has been building up a traffic and operating at some loss upon a river that is largely unimproved, but it claims that the results already attained show that the traffic would be eminently successful upon an improved river.

5. Another change in commercial conditions since the adoption of this project, upon which considerable stress is laid, is found in the readjustment of transcontinental rail rates, resulting from traffic through the Panama Canal. It is claimed that this handicaps the manufacturers in the interior of the country and that they need the compensating advantage of cheap water routes to the sea.

6. The board states that a review of the entire situation indicates that the present grounds for continuance of this project are stronger than those which led to its adoption, and it therefore concludes that it is advisable for the United States to continue the improvement of the Missouri River between Kansas City and the mouth in accordance with the existing project.

7. After due consideration of the above-mentioned reports, I concur in the views of the Board of Engineers for Rivers and Harbors, and therefore report that it is not deemed advisable to abandon the existing project for improvement of Missouri River, Mo., mouth to Kansas City. The occasional use of dredging as suggested by the board is considered advisable, and it is therefore recommended that such work be authorized in connection with this project.

DAN C. KINGMAN,
Chief of Engineers, United States Army.

REPORT OF THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS.

[Third indorsement.]

BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
December 8, 1915.

To the CHIEF OF ENGINEERS, UNITED STATES ARMY:

1. The following is the review of the district officer's report submitted under authority of section 14 of the river and harbor act of March 4, 1915, on reexamination of "Missouri River, mouth to Kansas City," with a view to determining whether the project shall be modified or the improvement abandoned.

2. The existing project was formally adopted by the act of July 25, 1912, although the first appropriation was made by the act of June 25, 1910, as explained by the district officer. The project provides for securing a permanent channel 6 feet deep between Kansas City and the mouth, at an estimated cost of $20,000,000, to be completed, except for maintenance, in 10 years. The work includes the removal of snags and the regulation and contraction of the channel by means of bank revetment and dikes. The estimated cost of the maintenance of the completed project is $500,000 per year.

3. There has been appropriated or allotted for this work a total of $6,250,000 in 6 years, or at the rate of a little more than $1,000,000 a year, while the project calls for $2,000,000 a year. The expenditures to March 4, 1915, were $2,577,290.85, of which sum $291,208.26

were applied to maintenance and about $597,000 were used in procuring suitable plant. Experience leads the district officer to believe that the project can be completed at the estimated cost, if appropriations are made at the rate of $2,000,000 a year for construction with sufficient amounts for maintenance, but that at the present rate it will require over 20 years to finish the work.

4. The commerce for 1913 is reported as amounting to 347,235 tons, of which 309,684 tons consisted of sand, gravel, and logs, reported as not being benefited by improvement, leaving 37,537 tons of waterborne commerce affected by the project.

5. The district officer analyzes the project on the basis of cost and benefit, and expresses the opinion that present and reasonably prospective commerce is not sufficient to warrant its continuance. He repeats what has been stated in former reports, that any attempt at partial improvement will be futile, and if the river is improved at all, the work should be complete as to the protection of banks and control of channel. He believes that snagging should be continued, and recommends that the present project be modified so as to provide for snagging alone, at an estimated cost of $40,000 per year, and that all other work be stopped.

6. The division engineer is in accord with the district officer as to the discontinuance of the present project for permanent work, but believes that the work already done should not be completely abandoned. He recommends an annual appropriation of $150,000 for snagging and the maintenance of existing works.

7. Interested parties were informed of the district officer's unfavorable report and were given an opportunity of submitting their views to the board. A number of communications were received, and request was made for a hearing, which was given by the board at Kansas City, on October 19 and 20, after personal examination of the river from Kansas City to Washington, a distance of about 320 miles. This hearing was attended by a large number of deeply interested persons, including representatives from Nebraska, Kansas, Missouri, Minnesota, Illinois, and Louisiana. A record of the hearing is appended hereto.

8. The method of improvement under the present project is the result of many years of experimental work at considerable cost. The simplest and most inexpensive structures were first tried and gradually through experience these were modified and strengthened, resulting finally in a standard form that with slight changes has been followed in recent years with a reasonable measure of success. It is believed that the systematic application, under adequate appropriations, of the general principles and methods followed under the existing project, with such modifications of detail as further experience may develop will result in a continuous and permanent channel 6 feet or more in depth. It may be desirable from time to time not only to modify details of construction, but also possibly to supplement the permanent work while under construction by the temporary use of a shallow draft dredge to cut through a few of the most obstructive crossings in order to facilitate low-water navigation. It is understood that the existing project is sufficiently elastic to permit such minor modifications with the approval of the Chief of Engineers. It has often been reported, and the Board desires to repeat here, that any project of less scope would be inadequate to secure a permanent

6-foot channel and if any improvement is undertaken, aside from snagging, it should be under the present plan of complete improvement, at a probable total cost of not less than $20,000,000.

9. A matter considered of great importance in connection with the present investigation is the existence of the recently organized Kansas City (Mo.) River Navigation Co. This company was incorporated in 1909 with a capital stock of $1,202,000, of which more than a million has been collected in cash. It is claimed by those interested that the incorporation and operations of this navigation company were undertaken as the result of an understanding with the River and Harbor Committee of the House of Representatives, that the project for the improvement of the Missouri River from Kansas City to the mouth would be adopted and vigorously prosecuted under adequate appropriations, provided the locality first show its faith in the importance and necessity for the improvement by the expenditure of its own funds in the actual establishment of commerce on the river. Navigation was commenced in 1911, with certain plant secured by purchase, and at the same time it was decided to investigate the types of boats best suited to successful and economical use on the Missouri River. The services of experts were secured and careful study of navigation on shallow-draft rivers was made, resulting in the adoption of the towboat and barge method of navigation with improved steel vessels of fire-proof construction and suitable size, draft, and motive power for the Missouri River. These investigations have been carried on at considerable expense and have far more than local value, as they contribute very substantially to the solution of the important problems of economical transportation on this and other inland waters of the United States. The company is satisfied with the progress made, and it proposes to continue the investigations and study, with its increasing activities, and to utilize the results in the construction of additional plant from time to time. The results of these investigations are furnished without charge to other cities contemplating the establishment of transportation lines.

10. The company has taken steps to remedy certain conditions that have contributed largely to the decline of river transportation. It has secured the establishment of terminal facilities at Kansas City and at East St. Louis, having rail connection at both places and mechanical devices for the transfer of freight. It has entered into joint traffic arrangements for the interchange of freight with connecting carriers, both rail and water, and is now handling commerce on through bills of lading. It receives and delivers goods in cars on shippers sidings, paying switching charges within certain limits, transferring to and from the boat, assuming carriers' risk in lieu of marine insurance, and transporting between terminals, all at a rate of 80 per cent of the corresponding rail rate. The present floating plant consists of 1 steel packet boat, 2 steel towboats, and 12 steel barges. These barges are of varying sizes, the larger ones, provided with steel fire-proof, weather-proof, and locked deckhouses, being used for through commerce, and the smaller for either through or local business, in the latter case the barges being left at way landings for loading, and being picked up by the next boat up or down, depending upon the destination of the cargo. So far the traffic receipts of the company have not fully covered operating costs, but

the company has been operating on an unimproved river and building up a traffic in face of considerable difficulties. It claims to have demonstrated that the traffic will be eminently successful on an improved river. This year, 1915, up to October 1, freights collected would have more than covered operating costs had not a barge been accidently sunk at its East St. Louis wharf.

11. This company is making the most thorough attempt within the knowledge of the board to revive a river traffic that had disappeared under railway competition. It appears to be sparing no expense or effort that will contribute to the solution of this problem, and it claims as a result of its experience, that success is attainable if a permanent 6-foot channel is provided. A continuance of the experiment under as favorable river conditions as can be secured is worth much to the United States, and should go far toward showing what are the real possibilities in this important field of the transportation problem in this country.

12. The commerce handled by this company is still comparatively small, but has been increasing rapidly since its organization. During the current year, up to October 1, it amounted to 27,306 tons, and it is expected that by the end of the navigation season it will be somewhat in excess of 33,000 tons, or about two and one half times the amount in 1914. This does not include the traffic carried by local boat lines operating at different points along the river, independently of the Kansas City (Mo.) River Navigation Co., which amounted to about 27,000 tons in 1913.

13. It is difficult to determine what may be the future water-borne commerce of this river, and neither the past nor the present volume should in fairness be used as a measure of what to expect in the future. The improvement so far effected in the channel is sufficient to show what can be done by the engineering methods adopted, but, excepting in the removal of snags, it has not progressed far enough to afford a very material betterment of channel depths, excepting in disconnected improved sections. The boats can not be loaded to their full capacity, and even light find difficulty at many shoal crossings. Schedule time can not be made and delays in delivery have tended to discourage shippers. Notwithstanding this, there is apparent an enthusiastic determination on the part of the navigation company and of the shippers to push their present endeavors to a successful conclusion, provided the United States continue the work of improvement under the existing project. Many individual shippers at Kansas City have given evidence that they intend to patronize the boat line as far as practicable, and that the extent of water-borne traffic will be in proportion to the amount of work done by the United States in the betterment of channel facilities. It is claimed that benefit has already been felt from the work done, and that each bend revetted adds to the safety and reliability of navigation. A number of individual shippers appearing at the hearing stated the amount of commerce that they would offer the boat line under improved river and transportation conditions. These were selected as representing different industries and lines of business, in which there are many other prospective shippers. Several of these shippers emphasized the fact that high-grade freight has been carried by the navigation company with less

damage in transportation and handling and less loss from pilfering than they have experienced with rail shipments. The navigation company attributes these conditions to its fireproof and locked freight houses on the barges. It is claimed that with the improved methods of interchange of freight between rail and water, commerce originating west of Kansas City and destined for St. Louis or points still farther east, as well as that originating east of St. Louis and destined for Kansas City or points beyond, can be handled advantageously by the navigation company. Some business of this character has already been done, and the evidence points to its increase. The amount that may be handled in this way is purely conjectural, as the method is as yet experimental and in its infancy, but it is known that the total tonnage moving through this territory is very large.

14. There have been presented to the board statistics of production and consumption of the territory tributary to the commercial center formed by Kansas City to show that the existing means of rail transportation are already fully utilized and that in the near future they will be unable to meet traffic requirements, if such be not the case to-day. It is claimed that soon additional highways of commerce will be a necessity. The report submitted in Appendix A[1] shows that the cost of construction and maintenance of one additional single track road is quite comparable with the estimated amount required to complete the present project and to maintain the improved channel, while manifestly the carrying capacity of the improved waterway is vastly greater.

15. It has been estimated that, with the channel held by revetted banks, there would be available for agricultural purposes in the bottom land along the river between Kansas City and St. Louis, 500,000 acres, the greater part of which would be less than a mile distant from the river, and a considerable portion of which is now necessarily nonproducing. It is claimed that this area would contribute very substantially to the river traffic.

16. Interested parties invite attention to the readjustment of transcontinental railway rates that is beng made as a result of traffic through the Panama Canal. The effect of these changes is to give pronounced advantage to Eastern seaboard industries for the Pacific coast trade, and thus to handicap the interior manufacturers, and it is claimed that their only hope of retaining a competitive position is in having the benefit of cheap water routes to the sea. An improved channel in the Missouri would connect with the effective channel already provided in the Mississippi and give such a route from Kansas City to the Gulf of Mexico.

17. Among the indirect benefits to be anticipated from the improvement of the Missouri River are: (1) The revetment of the caving banks will give security to adjacent lands, which can then be protected from overflow by the construction of levees, thus adding materially to the value of land and to the area of production with a corresponding increase of commerce. Already in some of the protected territory, local levee districts have been organized and are in successful operation. It has been stated that the general formation of levee districts is awaiting only the assurance that the improvement of the river will be continued. There is now a decided feeling

[1] See page 147.

of unrest and anxiety as a result of the present investigation. (2) The confinement of the river to a fixed channel as contemplated by the project results in the reclamation and upbuilding of new lands that, within a few years, will become available for agricultural purposes. This will further increase the amount and value of property adjacent to the river, as well as the amount of prospective commerce. (3) It is well known that the Missouri River carries large quantities of silt into the Mississippi River, resulting in injury to the navigation of that stream. The silt comes largely from the caving banks. The revetment of these banks and the fixation of the channel will reduce the amount of this material.

18. The board agrees with the district officer that up to this time experience in the United States on some other improved rivers, and particularly on the Mississippi, has not been such as to encourage the expectation that a river traffic will develop commensurate with the large cost of improvement. It would be difficult indeed to find economic justification of the cost of the improvement of the Missouri River from past experience on other waterways in this country having similar conditions. There is now, however, a renewed interest in river transportation and steps are being taken at a number of places on the Mississippi and its tributaries to provide terminal facilities and establish boat lines. The Government itself has undertaken an extensive program of improvement on the Ohio and Mississippi and on this section of the Missouri to develop the possibilities of such inland water transportation. The board believes that the commercial interests at stake and the benefits to be secured are sufficient to warrant the continuance of such work on those main streams as will afford a thorough opportunity to test their usefulness as transportation routes.

19. The United States embraces within its limits widely varying conditions of soil and climate, with farm, mine, and forest products of all kinds. Each section has some special advantage in the production of at least one of the articles required in civilized life. To attain the maximum benefit from these conditions it is essential that the means of intercommunication and distribution shall be fully developed, so that producers and consumers may be served at a minimum of cost. Both railways and waterways are needed. Each class of transportation has a sphere of its own. Destructive competition between them is uneconomical and wrong. In the more thickly settled parts of the country both now flourish even on parallel lines. It is uncertain whether this condition is as yet possible in the Missouri Valley. Its inhabitants claim that it is. This waterway lies in a direct path of traffic, and a well organized freight carrying line operates on it. When equally efficacious and up to date water transportation lines shall have been established on the Mississippi River, it seems beyond reasonable doubt that the commercial possibilities of these streams will be utilized to advantage. The testimony given to the board and appearing in the record of the public hearing shows potent causes for the decline of river traffic entirely apart from the true relative costs of transportation by rail and water. Changes of law have eliminated some of these causes, and it is claimed that the operations of the Kansas City-Missouri River Transportation Co. give promise that the remainder will disappear, and that through such agencies the much-to-be-desired problem of

minimum cost of transportation by water and rail will receive a definite solution.

20. A review of the entire situation indicates that the present grounds for continuance of this project are stronger than those which led to its adoption. The board therefore concludes that it is advisable for the United States to continue the improvement of the Missouri River between Kansas City and the mouth in accordance with the existing project.

For the board.

W. M. Black,
Colonel, Corps of Engineers,
Senior Member of the Board.

REEXAMINATION OF MISSOURI RIVER FROM KANSAS CITY, MO., TO THE MOUTH.

War Department,
United States Engineer Office,
Kansas City, Mo., April 22, 1915.

From: The District Engineer Officer.
To: The Chief of Engineers, United States Army
(Through the Division Engineer).
Subject: Reexamination of project, Missouri River, Kansas City to mouth.

1. In compliance with instructions contained in department letter dated March 18, 1915, I submit the following report giving my general views on the question of the modification or abandonment of the project for the improvement of the Missouri River from Kansas City to the mouth. This report is called for by section 14 of the river and harbor act approved March 4, 1915.

2. The project for this improvement was adopted by Congress July 25, 1912, in the following language:

> Improving Missouri River, with a view to securing a permanent six-foot channel between Kansas City and the mouth of the river, in accordance with the report submitted in House Document Numbered Twelve hundred and eighty-seven, Sixty-first Congress, third session, and with a view to the completion of such improvement within a period of ten years, eight hundred thousand dollars: *Provided*, That cooperation from the localities benefited may be required in the prosecution of the said project in case any comprehensive plan is hereafter adopted by Congress for an apportionment of expense generally applicable to river and other projects in which any improvement now or hereafter adopted confers special or exceptional benefit upon the localities affected: *Provided further*, That nothing herein contained shall postpone the expenditure of the amount hereby appropriated or any further appropriation for said project without action by Congress.

However, the first appropriation for the work was made June 25, 1910, in the following language:

> Improving Missouri River, with a view to securing a permanent six-foot channel between Kansas City and the mouth of the river, one million dollars: *Provided*, That the Secretary of War shall appoint a board of three officers to further consider and report upon the most economical and desirable plan of securing such channel, in which report consideration will be given to the subject of cooperation on the part of local interests in the work of said improvement: *Provided further*, That the report hereby authorized shall be submitted to Congress on or before the opening of its next regular session.

3. The appropriations and allotments made for this project are as follows:

June 25, 1910	$1,000,000
Feb. 27, 1911, authorized Aug. 24, 1912, appropriated	600,000
July 25, 1912	800,000
Mar. 4, 1913	2,000,000
Oct. 2, 1914	850,000
Mar. 4, 1915	1,000,000
Total of 6 appropriations	6,250,000

It will be noted that the appropriations have been made at about half the rate mentioned in the act adopting the project.

4. The expenditures to March 4, 1915, were $3,577,290.85, consisting of $3,286,082.59 for improvement and $291,208.26 for maintenance. It is estimated that the project is about 9 per cent completed. There have been large expenditures for plant since the inception of the project, and for that reason and on account of the lack of appropriations at the proper rate, the amount expended and the percentage completed appear out of proportion. But it has been demonstrated that the work can be done within the estimated unit cost, and it is my opinion that with appropriations at the rate of $2,000,000 per year for improvement and sufficient funds for maintenance the project could be completed within the total estimated cost.

5. The cost of maintenance after completion of the project is estimated at $500,000 per year. The maintenance work, including snagging, is now costing about $100,000 per year. It will gradually increase as the work progresses. If appropriations are continued at the rate of about $1,000,000 per year, and the maintenance increases from $100,000 to $500,000 per year, averaging $300,000 per year during the execution of the work, it is plain that over 20 years from this time will be required to complete the project.

6. I consider that the question of modifying or abandoning the project is one to be decided by a comparison of the cost involved with the benefits derived. Assuming the money of the Government to be worth 3 per cent interest, the total estimated cost of the project represents $600,000 per year interest. Adding the maintenance cost of $500,000 per year gives $1,100,000 per year as the permanent charge to the Government resulting from the execution and maintenance of this project.

7. The benefits derived are represented by the increased facilities for navigation. There are other incidental benefits, such as the protection of lands from erosion and the amelioration of flood conditions, but these have not been recognized as proper objects of Government expenditure on the Missouri River and are therefore not considered in the analysis.

8. The commerce to be considered is present and prospective, and the advantages that commerce will obtain from the improvement are the actual saving in freight charges by the use of the river and the effect on railroad freight rates produced by the possibility of water transportation.

9. The commerce for the calendar year 1914 is not yet fully tabulated. For 1913 it was as follows:

Articles.	Amount.		Valuation.	Average haul.	Rate per ton-mile.
	Customary units.	Short tons.			
				Miles.	
Grain	253,940 bushels	6,701	$195,303.38	123	$0.0091
Hay		114	2,049.66	106	.0156
Feed and flour		334	9,538.88	8	.0670
Oil	46 barrels	12	345.00	8	.0483
Manufactured iron and steel		1,655	897,790.50	291	.0089
Live stock	4,800 head	945	137,039.20	31	.0403
Salt	148 barrels	22	259.00	9	.0510
Sand and gravel	1,735 cubic yards	2,513	1,646.00	9	.0557
Brick	4,800	16	56.90	9	.0349
Cement	534 barrels	107	1,152.90	26	.0346
Lumber	75,360 feet b. m.	183	2,976.60	13	.0333
Other building material		15	1,088.00	10	.0415
Railroad ties	128,908	10,312	62,697.50	14	.0085
Produce		196	22,370.40	125	.0114
Wood	591 cords	847	2,135.60	9	.1002
Miscellaneous		13,579	2,520,734.80	237	.0093
Logs and lumber rafted	43,000 feet b. m.	107	473.00	150	(1)
Sand and gravel barged	238,136 cubic yards	309,577	71,555.00	1	(1)
Total		347,235	3,929,212.32		

[1] Owner.

10. The items that are not benefited by improvement of the river are the sand and gravel barged and the logs and lumber rafted. They amount to 309,684 tons. Ferry traffic is not counted in reporting the commerce on the Missouri River.

11. Eliminating the logs and the sand and gravel barged, the remaining traffic is 37,551 tons, divided into classes which are carried over average distances of from 8 to 291 miles. The total freight charge on this traffic was about $41,000. The Kansas City-Missouri River Navigation Co., the only through line on the river, operating between Kansas City and St. Louis, charges 80 per cent of the railroad freight rates. Assuming this to be the relation between the rail and water rates for the entire traffic, the saving to shippers by the use of the river in 1913 was about $10,000. It is evident that this saving is entirely inadequate to warrant the serious consideration of an expenditure by the Government of $1,100,000 per year in interest and maintenance.

12. The reduction in rail rates resulting from the possibility of water transportation is not a simple subject. There is no question that towns having water transportation are for that reason favored with lower rates than other places having no water transportation and requiring equal rail haul. It is my understanding that this condition is recognized by the Interstate Commerce Commission. It is frequently argued that if the improvement of a river gives lower rail rates, such improvement is justified even if the river never carries a ton of freight. This might be true if there were no other method of controlling rail rates, but in these days when the railroads claim that they are being regulated too much, there appears to be no lack of governmental machinery for controlling them, and it does not seem necessary to spend $20,000,000 to bring about a proper rail rate between Kansas City and St. Louis.

13. In some cases the improvement of a stream is justified, even at high expense, where the absence of rail transportation leaves the territory along the stream entirely dependent on water transportation. This is not the case with the Missouri River between Kansas City and the mouth. Over a great part of the distance the river is paralleled with railroads on both banks, and there are few localities that have no railroad within easy reach.

14. There remains to be considered the question of prospective commerce, and in my opinion the improvement must stand or fall by this criterion. In the survey report upon which the present project is based, the prospective commerce was given by the president of the Missouri Valley River Improvement Association as 1,000,000 tons. See page 45 of House Document No. 1120, Sixtieth Congress, second session. That estimate was based upon a 10-foot channel, with six or seven boats especially adapted to the navigation of the Missouri River, handling cargoes of 2,000 tons each, and making one round trip per week during a navigation season of ten months. The fact is that anyone can make almost any estimate he sees fit as to the prospective commerce. I think a better way to approach the subject is by inquiry concerning a river that has been improved. An example is the Mississippi between the mouth of the Ohio and the mouth of the Missouri. In the annual reports of the Chief of Engineers this stretch of river is reported as having a navigable depth of 6 feet or more during the entire navigation season of recent years. The commerce for the calendar year 1913 was 258,709 short tons, not including sand and gravel or ferry traffic. It should be noted that this stretch of river is so situated as to draw commerce from the improved stretches of the Mississippi above and below it as well as from the Ohio and the Missouri. If the Mississippi under these conditions and with a 6-foot channel carries 258,000 tons, it seems to me doubtful whether the Missouri with the same depth will carry any more. The Missouri River traffic would have to increase sevenfold to equal that on the above section of the Mississippi, and would have to increase a hundredfold to reach a figure commensurate with the cost of the work.

15. From the foregoing considerations I am of the opinion that the present and reasonably prospective commerce on the Missouri River between Kansas City and the mouth is not sufficient to warrant the continuance of the present project. I think the snagging should be continued, so that commerce may have the advantage of the natural depth of the river and the river shall not be allowed to become entirely obstructed. Any attempt at partial improvement seems futile, because the draft of boats, and therefore their cargoes, will be determined by the least existing depth. If the river is improved at all, the work should be complete as to protection of banks and control of channel. For the same reason it seems to me injudicious to spend any money in keeping up the works already built. If in another generation the improvement of the river becomes advisable, the present works will be of little value, and in the meantime the channel depth in the portions that have been improved are not likely to be less than in the portions wholly unimproved.

16. It is to be noted that these views agree in many respects with the previous attitude of the Engineer Department, as expressed by

the Board of Engineers for Rivers and Harbors June 8, 1908, and by the Chief of Engineers December 2, 1908, in action on survey report published in House Document No. 1120, Sixtieth Congress, second session. The views of the board as to the futility of partial improvement and the wastefulness of inadequate and irregular appropriations, are of particular interest. The Missouri River Commission in its final report also expressed the opinion that there was no middle course between mere snagging and thorough systematic improvement.

17. I recommend that the present project be modified so as to provide for snagging alone at an estimated cost of $40,000 per year, and that all other work be stopped.

HERBERT DEAKYNE,
Lieut. Col., Corps of Engineers.

[First indorsement.]

OFFICE DIVISION ENGINEER, WESTERN DIVISION,
St. Louis, Mo., May 22, 1915.

To the CHIEF OF ENGINEERS, UNITED STATES ARMY:

1. Forwarded, concurring in the opinion of the district officer that the existing river commerce is not sufficient to justify the permanent improvement of the Missouri River from Kansas City to its mouth, but not approving the recommendation that the work should be entirely abandoned.

2. It is believed that there is still opportunity for the revival of western river commerce, but that it should first be sought not in the tributaries but in the main river. There is neither the density of population nor of material seeking shipment on the tributaries of the Mississippi, with the exception of the Ohio, to cause such a revival which will be in the nature of a revolution of the existing methods of transportation and will naturally originate at large centers of population, such as Chicago, Pittsburgh, St. Louis, and New Orleans, where large amounts of manufactured products are seeking shipment. The agricultural products originating on a river bank are not sufficient to justify a large expenditure for the improvement of the river channel. With a revival of commerce on the main stream its extension to the tributaries will gradually follow.

3. The fact, however, that there has been a failure to properly utilize the improved channel that has been maintained during the past 10 years from St. Louis to New Orleans should cause Congress to hesitate before continuing the large appropriations it is making for the western rivers.

4. In the opinion of the division engineer, the problem of developing our western rivers should be treated as a single one. Instead of scattering appropriations over the entire western territory a channel of 8 or 9 feet depth should first be provided from Chicago to New Orleans and the offer of assistance in the construction of a canal along the Des Plaines River from the State of Illinois accepted. An opportunity should then be afforded the American people to determine whether they want waterways not by rhetorical efforts in river conventions, but by a practical utilization of the channel thus afforded. Until such revival occurs appropriations on the tributaries should be confined to maintaining the existing status. The existing

works should not be allowed to deteriorate. At present an annual appropriation of $150,000 for snagging and the maintenance of existing works is therefore recommended.

C. McD. Townsend,
Colonel, Corps of Engineers.

[For report of the Board of Engineers for Rivers and Harbors, see page 3.]

STATEMENT OF THE COMMERCIAL CLUB OF WASHINGTON, MO.

Washington, Mo., *August 9, 1915.*

Be it declared and enacted by The Commercial Club of Washington, Mo., as follows:

According to our best information the United States Government, through its proper channels and by some of its most competent engineers and officers, decided that the Missouri River should be improved, according to careful and well-laid plans.

Lieut. Col. Deakyne, United States Army engineer in charge of the improvements, has recommended to the Board of Engineers for Rivers and Harbors, Washington, D. C., the abandonment of such improvement in accordance with the present project.

Much labor and money have been expended to get these improvements well under way, and the result so far, in spite of some reverses owing to unusual high waters, has been most satisfactory and successful.

It does not seem logical or wise that our Government, after proclaiming to the public that it would make certain well-defined improvements upon the Missouri River, sets aside appropriations for that purpose, actually begins the work at a great cost of money and labor, should then suddenly decide it was in error, retracting all that was said and done. Such a stand would be detrimental and humiliating to the Government, its officials, and the people who worked and fought for the improvement.

Furthermore, there is no necessity for such action. Part of the improvements have been made, and their continuation will make the Missouri River a valuable commercial stream. The business men of Washington, together with the city authorities, are about to build a suitable levee and warehouse for river shipments. They wish to patronize river transportation for the good of the community:

Therefore, The Commercial Club of Washington, Mo., in behalf of its citizens, requests the official Representatives in Congress of this district and everyone interested in the permanent improvements of the Missouri River to protest most earnestly and emphatically against the late action of Lieut. Col. Deakyne in recommending the abandonment of such river improvement.

It is further ordered and directed that the secretary of The Commercial Club send copies of these resolutions to Senators Stone and Reed, Speaker Clark, Board of Engineers for Rivers and Harbors, Washington, D. C., and The Kansas City Commercial Club, that a copy thereof be filed with the records of The Commercial Club, and that these resolutions be published in our city newspapers.

Adopted August 9, 1915.

G. Henry Otto,
President of The Commercial Club.

Attest:
H. A. Krog, *Secretary.*

The Board of Engineers for Rivers and Harbors.

LETTER OF MR. HUNTER M. MERIWETHER.

Kansas City, Mo., *August 25, 1915.*

Dear Sirs: I desire to protest against the conclusions arrived at, with reference to the improvement of the Missouri River, by Lieut. Col. Herbert Deakyne, of the Corps of Engineers, in his report submitted August 4, 1915. Under section 6 of said report I quote as follows: "I consider that the question of modifying or abandoning the project is one to be decided by a comparison of the costs involved with the benefits derived." Col. Deakyne then proceeds to base his conclusions entirely upon the benefits derived from the commerce carried by navigating the river in its present uncompleted condition.

The error of such a contention has doubtless been fully pointed out to you by others who have protested against the conclusions of this report. What I desire to call your

attention to is the fact that the benefits to be derived from the improvement of the Missouri River are not wholly or not even principally from the navigation of that river alone.

The Missouri River is the greatest tributary of the Mississippi River. It leads through the Plains States and into the foothills of the Rocky Mountains. The actual fall in the Missouri River between Kansas City and St. Louis is 303.5 feet. The distance is approximately 400 miles, so that the current of the Missouri River, as governed by this fall, is unusually rapid. It has been determined by expert examination to be between 4 and 7 miles per hour. By reason of the rapidity of this current, its scouring effect is excessive, and the great bends of the river, embracing its delta of approximately 10 miles in width throughout its course between Kansas City and St. Louis, are continually moving downstream.

By reason of the swiftness of the current and the scouring effect referred to, the matter carried in suspension by the Missouri River is very excessive and exceedingly coarse. The coarse sand which flows not only in the water but along the bottom of the river is emptied into the channel of the Mississippi River, where the current is not nearly so rapid. It is well known that the amount of coarse material thus deposited into the channel of the Mississippi River amounts to millions of cubic yards a year, and the improvement of the Mississippi River will be rendered far more expensive unless this vast quantity of coarse material from the channel of the Missouri River can be reduced.

The only practical way to reduce this quantity of material now being delivered by the Missouri River into the channel of the Mississippi River is by the improvement of the banks of the Missouri River so as to prevent it from continually caving away these banks, and in this way to prevent the annual flow of the bends of the river downstream. That the improvement of these banks is entirely feasible from an engineering standpoint is admitted in the report of Col. Deakyne.

I protest that the improvement of the Missouri River is a necessary part of the project to improve the Mississippi River, and that unless the caving banks of the Missouri River are prevented, the cost of improving the Mississippi River will be so great as to be far less advisable from an economic standpoint than the improvement of the Missouri River is from the same standpoint. The project of improving the Missouri River should be carried out as originally planned as a part of the general plan of rendering the Mississippi River navigable, and as the cheapest method of permanently improving that river even if there was never a pound of freight or a particle of commerce between St. Louis and Kansas City.

I protest that Col. Deakyne did not consider this feature of the project and that any consideration of the improvement of the Missouri River, as separated from the general project of improving interior rivers and harbors, is improper and should not receive the indorsement of your board.

The writer has had many years practical experience in the matter of controlling the Missouri River and protecting its banks against erosion, and thoroughly agrees with Col. Deakyne in his statement that it is practicable and entirely feasible to prevent the banks of this river from erosion, and that the same can be done for less than the amount specified in the plans for the completion of this project.

Respectfully submitted.

HUNTER M. MERIWETHER.

The BOARD OF ENGINEERS FOR RIVERS AND HARBORS.

LETTER OF THE MINNEAPOLIS CIVIC AND COMMERCE ASSOCIATION.

SEPTEMBER 9, 1915.

GENTLEMEN: This association, representing 3,300 of the most prominent business men of Minneapolis, respectfully requests permission to bring to your attention several matters with regard to the report of Lieut. Col. Deakyne, Corps of Engineers, United States Army, relating to the abandonment of the improvement project upon the Missouri River.

In common with other western communities, this city has a most vital interest in all middle western improvement projects at this time. It is the feeling of our business men that the disadvantages resulting to this section of the country by reason of the opening of the Panama Canal will be counteracted only by such improvement of the waterways as will bring direct water communication to all communities which may be so benefited by reasonable expenditure for river improvements.

Our manufacturers have already felt to some extent the effect of seaboard competition in the Pacific coast trade which the construction of the Panama Canal has

caused, and are, therefore, in a position to appreciate the disadvantages which must ensue to the commercial interests of Kansas City, unless the benefits of the Panama Canal are made available to that section through the establishment of direct water communication between Kansas City and the seaboard. Although this association is not prepared to enter into details of this situation, nevertheless we feel that a community which is even less advantageously situated with regard to transportation than our city has an undeniable claim to consideration by the Federal Government in this matter.

The Middle West is a unit in its desire for the widest possible distribution of the advantages of the Panama Canal through river development in this section. Representing a considerable part of that community, this association respectfully recommends to your honorable board a most careful consideration of all points involved before accepting the report of the United States engineer above referred to.

In addition to this threatened handicap to a portion of the Middle West of which we are a part, this city in particular has another even more direct interest in the improvement of the Missouri River. We refer particularly to the commerce between Minneapolis and the territory tributary to Kansas City. This commerce takes the form of implements of many kinds, such as tractors, thrashing engines, and separators, furniture, manufactured cereals, and prepared roofing. It is impossible at this time on such short notice to make any complete study of the traffic relations existing between Minneapolis and Kansas City and their bearing upon the improvement of the Missouri River for purposes of navigation. It is safe to state, however, that many thousands of tons of freight move between these two centers annually, and that the rates of service between these points are vitally affected by the navigability of the Missouri River. This potential highway of commerce is of the greatest importance to this market in view of the fact that within a few months Minneapolis will become the head of navigation upon the Mississippi.

Already our business men are making plans for the practical resumption of navigation and the proposed closing of the Missouri River will result in the isolation, so far as river communication is concerned, of a very large and profitable market. Although this market at the present time has been developed to a considerable extent by our local manufacturers and wholesalers, there has been very recently a new awakening to the possibilities of southwestern territory and a spirit of enterprise manifested by our local people in this regard which this association is desirous of fostering in every possible way. The seemingly imminent resumption of direct water communication between Minneapolis and the southwestern market has undoubtedly been a factor in stimulating our business men to look to the Southwest for trade. The closing of the Missouri channel, which we are informed would ensue upon following the recommendations of Lieut. Col. Deakyne, would have a very detrimental effect upon the attitude of our people toward this new and rapidly developing section of the country. Moreover, with the assured 6-foot channel upon the upper Mississippi River, with Minneapolis lying at its head, our business men feel that the closing of the Missouri channel would be a serious subtraction from the benefits which would otherwise accrue to this and other cities similarly situated.

From still another point of view the closing of the Missouri channel menaces the welfare of this section of the country. Our business men have looked with admiration upon the efforts of Kansas City to establish navigation upon the inland waterways of this country. They have admired the perseverance of the southwest in actually establishing boat lines upon the Missouri River in spite of the almost insuperable obstacles offered to the Missouri River channel. With this example of business hardihood before them they have already taken steps for the organization of navigation companies to use the Mississippi channel which the Government is about to complete. In these efforts the association has taken a most active part. We can not but feel, however, that any further efforts along this line will be seriously handicapped by the adoption of a report which closes to navigation a river channel which shippers have so conscientiously and courageously endeavored to make practical use of as have the shippers along the Missouri River.

We submit letters [1] from some of the more prominent manufacturers of agricultural implements interested in this southwestern territory indicating their connection with this section and their attitude toward the abandonment of the Missouri River as proposed in the report of Lieut. Col. Deakyne. Should you desire other letters from our manufacturers on this subject we shall be glad to furnish them.

Respectfully submitted.

W. F. Decker, *President.*

The Board of Engineers for Rivers and Harbors.

---

[1] Not printed

LETTER OF MR. H. G. MOULTON.

OCTOBER 22, 1915.

DEAR SIRS: I am submitting, for the consideration of the board of Army engineers, the following testimony which I was unable to give at the public hearings at Kansas City. I could not stay for the second day's conference and could not gain permission to speak on the first day. I was informed, however, by one of the members of the board that if my testimony was submitted in writing it would receive careful consideration from the board.

My conclusions will be found to be strongly in support of Col. Deakyne's report.

Very respectfully, yours,

H. G. MOULTON.

THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS.

STATEMENT OF MR. H. G. MOULTON.

I. The writer's qualifications for speaking upon the question of the Missouri River improvements are as follows: He is assistant professor of political economy at the University of Chicago and has made what has been called the most thoroughgoing investigation of water transportation that we have. In 1910 he went to Eurpoe and made a first-hand investigation for six months, covering all of the principal countries of Europe. The investigation also included the principal waterways projects of the United States. The conclusions, published in "Waterways *vs.* Railways" (Houghton, Mifflin & Co., 1912), a volume of 470 pages, have been generally accepted by the economists of the United States as conclusive.

The writer's interest in testifying before the Army board of engineers is that of a scientific student of the question, on the one hand, and that of a taxpayer, on the other hand, who is interested in having the Government funds expended for justifiable projects only.

II. In discussing the Missouri River project, I wish to treat the subject from two standpoints; first, that of the probable traffic that is likely to develop, and second, from the broader standpoint of national economic policy.

The testimony submitted before the Army board at the hearings in Kansas City shows that the main reliance is placed upon the carrying of manufactured commodities with some hope that agricultural produce will use the river. The experience of other waterways in this and other countries will throw much light on the probability of extensive traffic development of this sort.

1. *Germany.*—a. The Rhine River: Of all the rivers in Germany there is only one which is self-supporting—i. e., which has sufficient traffic to cover the annual expenses of maintenance and interest on the investment. The traffic on the lower Rhine in 1908 was 21,818,000 tons. Of the upstream traffic 50.8 per cent was of iron ore and coal and 19 per cent imported grain unloaded from ocean vessels at Rotterdam to the canal boats. Of the downstream traffic 70.2 per cent was coal and iron. Of the remaining traffic, both upstream and down, a large part was of cement, building materials, rock salt, and fertilizer. Not 10 per cent was made up of manufactured wares and domestic agricultural produce. Much of the manufactured commodities was of bulky iron and steel manufactures. The total traffic in manufactures did not exceed 2,000,000 tons. In considering this total the following points of special advantage enjoyed by the Rhine are to be noted: (1) In the Westphalian industrial region near the lower Rhine, on an area of 1,300 square miles, one-fiftieth of the area of Missouri, originates one-fourth of the entire traffic of the German Empire. (2) The entire cost of canalization of the river, 1866–1898, was $4,250,000. (3) The river is interrupted by floods two days a year on an average. (4) Ice closes navigation 17 days a year. (5) There are no periods of low water, the river being fed by the melting of glacial ice in the Alps. (6) It has ample depth for 2,000-ton barges for 351 miles.

b. The Danube River: The total traffic in 1886 was 231,000 tons and in 1908 was 281,000 tons. The depth of the river is 7½ feet. It flows through the rich territory of Bavaria and through the heart of Austria. The reason for the small amount of traffic is that there are no great deposits of coal and iron near the river. Conditions, on the whole, are very similar to those on the Missouri River. Of the existing tonnage a large part is in building materials.

c. The Vistula River (typical of the rivers of east Germany): The traffic in 1873 was 161,000 tons and in 1908 was 135,000 tons. It has ample depth, few interruptions from floods or low water. The causes of the smallness of the traffic are: (1) No coal or ore deposits. (2) Closed for ice four months in the year.

It flows through a rich agricultural region, but the German Government recognizes that the agricultural produce can not make extensive use of water transportation. The following quotation is the official view:

"The raising of agricultural produce always presupposes a relatively extensive area of production and is thus a decentralized industry, on which account, in the great majority of cases, it is only the railways that come into consideration with reference to their transport." The cost of transshipping is regarded as prohibitive.

2. *France.*—The following statistics show the character of the traffic moving on French waterways:

Character of French traffic.

	Per cent.		Per cent
Coal and coke	29.5	Industrial products	5.3
Stone, gravel, and lime	36.3	Agricultural products	13.2
Fertilizer	4.2	Unclassified	.9
Wood and lumber	5.2	Raft wood	.4
Metals and machinery	2.6		
Oils, sugar, and sand	4.4	Total	100.0

The relatively large percentage for agriculture here is due to the extensive shipment of wine in casks by waterway.

3. *The United States.*—The only really extensive traffic on American waterways to-day is in the Great Lakes through St. Marys Falls Canal, due almost exclusively to iron ore and coal, and on the Ohio River, due, primarily, to coal.

It is important to note that the Ohio River owes its large traffic largely to the fact that the coal is mined very close to the tributaries to the Ohio, particularly the Monongahela, and can be loaded without transshipment and floated down the river.

In France, over 96 per cent of the total waterway traffic is strictly riparian. This is in spite of every effort to bring about cooperation between the waterways and railway. The cost of transshipment is too great a barrier. In Germany most of the traffic, except in the Rhine region, originates on the river and is distributed to points on the river. Whenever it is transshipped, it has to be at rates which do not cover the cost, the Government shouldering the deficit.

The deficit borne by the German Government on all waterways in 1905 was as follows:

Waterway.	Total deficit.	Deficit per mile.
Uncanalized rivers	$4,787,473	$2,060
Canalized rivers and canals	6,869,667	4,555
Harbors	1,841,637	.....
Total	13,498,777	3,523

DEFICIT ON PARTICULAR WATERWAYS IN 1905.

Weser River: $257,388, or 59 cents a ton. There are no extensive deposits of iron and coal along the Weser.

Elbe River and connecting canals about Berlin: $1,767,778, or 23 cents a ton. This traffic is largely coal, gravel, cement, and other building materials, of local origin, so that the deficit amounts to something like 1 cent per ton-mile.

The deficit on the French waterways in 1905 was $19,000,000, or $2,500 per mile of navigation.

4. *The Missouri River project.*—In discussing the Missouri River, I wish to speak first of the traffic estimates that have been made. The estimates made indicate that from 750,000 to 1,000,000 tons should eventually use the river. It is to be noted:

a. That if such an amount of traffic could be developed on the Missouri River, the shippers there will have done at least tenfold better in that connection than on any other river in the world.

b. The estimates and promises of traffic that are now being made are based on the assumption that there will be an actual substantial reduction in the water rates as compared with the rail. This, as will be shown later, is by no means sure.

c. It is to be noted that these estimates of traffic are exaggerated in the hope of procuring Government aid. Such has been the case with every river or canal project; and subsequent events have always proved this to be true. The total traffic between Kansas City and St. Louis over all four railroads moving in both directions for the present fiscal year was 3,000,000 tons. This data has been secured direct from the railways in question. The data submitted at the hearings by a gentleman from

St. Louis showed the same figure for the year 1912. (I understand, however, that the manager of the boat line in Kansas City claims that the total traffic between Kansas City and St. Louis is 8,000,000 tons and that his boat line should get 10 per cent of this amount, or 800,000 tons. This figure of 8,000,000 tons is incorrect.) Lieut. Col. Deakyne's report shows that the saving in 1913 was about $10,000 on a total traffic of about 37,551 tons. On 800,000 tons the saving would be about $200,000 at the same rate. To save $1,100,000, the amount of our maintenance and interest charges, would require more than 4,000,000 tons of traffic; in other words, one-third more than the entire traffic passing between Kansas City and St. Louis. In other words, if the waterways should succeed in taking all the traffic away from the railways, it would still be insufficient to cover the maintenance and interest charges on the waterway.

d. The question should be raised, however, would not a larger traffic present a still further reduction in the water rates? It was brought out in the hearings that the deficit to the boat line for 1914 was $40,000. It should be noted that the actual cost was, therefore, not $1.10 a ton, as shown by the rates, but over $2 a ton; for this $40,000 deficit was incurred in the moving of less than 30,000 tons of freight. However, it appears probable that with improved conditions of navigation the company would be able to conduct business without the deficit. The question was raised by one of the board of engineers, however, if this deficit included the interest on the investment made by the owners of the boat company; and the reply was that it was quite exclusive of interest charges. The shareholders who have invested funds in this boat company forego, let us say, a 5 per cent interest rate in alternate employments of these funds. The interest on the capital invested must, therefore, be counted as part of the cost of transporting these goods, and it is certain that, sooner or later, the shareholders will complain if interest is not paid on the shares. The capital stock is $1,200,000, of which more than $1,000,000 has been paid in. The amount of interest charges at 5 per cent is, therefore, $55,000, ultimately $60,000. On the basis of the present traffic, this makes the cost of transportation on the boat line not $1.10 a ton, but over $4 a ton, including the operating deficit already mentioned. I believe it is altogether improbable that for many years to come, at the existing level of rates, it would be possible for the boat company to pay dividends. The shippers of Kansas City are merely deceiving themselves when they think that the use of this boat line is going to substantially reduce the cost of transportation, all factors included.

III. The shippers of Kansas City feel, however, that even if the traffic is not adequate to cover the Government's outlays, they are entitled to aid from the Federal Government. They believe that the nominal reduction in rate by 20 cents a ton means success or ruin to the manufacturing interests. This view, however, can not be accepted as sound from the standpoint of general welfare. In the first place, the notion that if they get this aid from the Federal Government it costs them nothing is erroneous. They are disposed to make this, the Missouri River fight, a general waterways fight. The rest of the country is paying Federal taxes to contribute to the support of the Missouri River; but if the people of Missouri are asked in return to contribute by means of Federal taxes to the support of waterways in Arkansas, Florida, Texas, California, and elsewhere, they are really paying for their own waterway. This becomes almost literally true, in view of the congressional system, whereby the regions which have no waterways to improve secure post offices and other public buildings instead.

It should be noted, in the second place, that there is really no occasion for a reduction in freight rates by means of water competition, aided by large appropriations from the Federal Treasury. The Federal Government has demonstrated its power to reduce the railroad rates in certain sections, if they are too high; and if it is true that the Kansas City district, by virtue of the opening of the Panama Canal, is discriminated against, we have the means, through our Interstate Commerce Commission, of readjusting the railway rates to remove this disadvantage.

Another erroneous idea is that if this traffic is taken away from the railroads that the railway freight charges will thereby be proportionately reduced. The Interstate Commerce Commission has recognized that the railways are entitled to a fair return on their investment. If, by losing this traffic, they should find their revenues substantially reduced, the railways would either have to recoup their losses by charging higher rates on other traffic which is still moved by the railroads, or would have to apply to the Interstate Commerce Commission for permission to charge a uniform higher rate on all traffic. It has never been shown that the railroads between Kansas City and St. Louis are reaping, on the whole, exorbitant profits.

Finally, I wish to raise this consideration. If it is true that Kansas City is in need of having the freight rates reduced, could these lower rates not be secured better by

means of a railway than by means of the improvement of the river. The city of Cincinnati has a railroad of its own, which has proved very successful. The details of this road are discussed in a very remarkable article on the waterways question by Mr. Walter L. Fisher, former Secretary of the Interior. I inclose a copy [1] of the Journal of Political Economy in which his article appears. The article as a whole is a valuable discussion of the whole waterways question.

Respectfully submitted.

H. G. MOULTON.

LETTER OF THE KANSAS CITY MISSOURI RIVER NAVIGATION CO.

KANSAS CITY, MO., *October 30, 1915.*

GENTLEMEN: At Col. Black's suggestion, we are pleased to submit our views in the matter of dredging in the Missouri River. You will understand, of course, that we do not advocate dredging as a means of permanent channel improvement.

During the low-water period of each season, limit of draft or barge load is prescribed by the depth of water over a very few shallow crossings—generally not more than two or three at any one time. The shallow sections of such crossings are usually very short—100 to 900 feet—and we have for some time contended that it would be a simple matter to relieve this limitation of load by the use of a dredge. It has been our experience that, as the river falls, the current will in time naturally scour its own channel to a reasonable depth, but this requires time—sometimes several weeks. While the channel is "finding itself," navigation is hampered by the uncertainty of where such channel will make and by the shallow water during making process. We are confident that the proper location for channel could readily be determined, and the channel dredged in a very short time and with very beneficial results to navigation.

It seems reasonable to contend that, while permanent improvement work is progressing, a dredge should be employed to provide a minimum depth of channel somewhat in keeping with the available depth throughout the greater portion of the river.

Further, it seems to be the judgment of the local engineer office that dredging will eventually be necessary—after completion of the project—to take care of occasional fills. Why not employ such dredge now so that commerce might more quickly secure the maximum benefit of channel improvement?

We beg to suggest that the engineering advice and information we have obtained would indicate the necessity for using, in the Missouri River, dredges with not less than 24-inch suction.

Attached tabulation shows the months of this and last season in which our boats were delayed at shallow crossings that could easily have been eliminated by dredging. You will note that not more than four crossings gave trouble during any one month. This tabulation does not show delays or groundings due to uncertain location of channel or causes other than shallow crossings.

Very truly, yours,

A. W. MACKIE,
Assistant to the President.

The BOARD OF ENGINEERS FOR RIVERS AND HARBORS.

STATEMENT OF THE KANSAS CITY MISSOURI RIVER NAVIGATION CO.

Delays and groundings, 1914–15, chargeable entirely to shallow crossings.

Crossings.	Miles from Kansas City.	April.	May.	June.	July.	August.	September.	October.	November.
Baltimore Bar	85						1915	1915	
Glasgow	154	1914			1914				1914
Saline City	165					1914	1914	1914	
Plow Boy	210							1915	
Stanley Island	230	1915	1915		1914				
Isbell	258								1914
Chamois	266	1914	1914						
Klondyke	334					1914			
St. Albans	337		1914			1914			1914
St. Charles	363					1914			1914
Pelican Island	377		1914	1914			1914		

[1] Not printed.

SPECIAL REPORT OF THE KANSAS CITY MISSOURI RIVER NAVIGATION CO.

Index.

	Pages.
Comparison of tonnage, ton-mileage, and cost of transportation per year	21–23
Running efficiency per year	23–25
Running efficiency of each boat per trip, per month, and per year	25–30
Record of time consumed per round trip per year	31–34
Tonnage, mileage, and ton-mileage and fuel consumption per boat, per trip, and per year	34–39
Colored charts showing the operation of each boat each day and each hour, 1913, 1914, and 1915	39

KANSAS CITY MISSOURI RIVER NAVIGATION CO. SPECIAL REPORT, OCTOBER 17, 1915.

Capacity.—The capacity of the fleet of the Kansas City Missouri River Navigation Co. is 1,350 indicated horsepower in the two towboats *A. M. Scott* and *Advance*, and 5,700 tons capacity in 12 merchandise barges and lighters and an additional 750 indicated horsepower and 300 tons capacity in the packet boat *Chester*.

Actual tonnage carried.—In the current year, up to October 1, 1915, the two towboats transported in the merchandise barges 27,306 tons, traveled a total of 32,004 miles with a ton-mileage of 10,708,344 in 1,004½ boat-hours or an output of 1,075 ton-miles per boat-hour.

The normal capacity of each towboat with the present channel allowing only a draft of 4 feet being 3,000 ton-miles per hour, this year's operating efficiency figures at 36 per cent, and if we consider the fact that boats, no matter how efficient, can not run 100 per cent of the total time in service, but that 70 per cent efficiency is looked upon as a maximum figure, only an additional 34 per cent increase can be expected even with a perfect channel of 4 feet.

As this year's visible delay caused by grounding, rudder and machinery repairs from the same cause, and the lay-up time during dark nights in unimproved stretches of river amounts to 22.12 per cent, only an additional 12 per cent efficiency can be reasonably expected for the next season, which 12 per cent must be saved at the terminals.

Cost of transportation.—The cost of transportation per ton-mile has been reduced to 3.5 mills and, with an additional 12 per cent increase in efficiency and additional economies in all departments, may be reduced to 2.5 mills next season.

TOWBOAT "A. M. SCOTT"—REPORT OF FIRST HALF OF NAVIGABLE SEASON, 1915.

March 10 to June 30.

The steamer *A. M. Scott* entered her regular service March 10, 6.50 p. m., leaving East St. Louis with the barge *Delta*, and had traversed by June 30, 1915, in 112 days of continuous service, 8,124 miles against 6,150 miles of the previous year, or an average of 73 miles per day.

Out of a total of 2,693 hours she was actually running in tow 1,404½ hours, or 52 per cent of the time, while in 1914 the running efficiency over the same season did not exceed 42 per cent. She was delayed by navigation trouble 73 hours, or 2.7 per cent; delayed by bunkering and waiting for oil 135½ hours, or 5 per cent; delayed by machinery or boiler trouble while under way 30 hours, or 1.1 per cent; by storm, fog, and darkness while running upstream 188¼ hours and downstream 225¾ hours, or a total of 15.7 per cent; by loading and unloading while under way, 47 hours, or 2 per cent; and she was held in port at St. Louis for 225 hours, or 8.3 per cent, and at the home port of Kansas City 364 hours, or 13.2 per cent.

Tonnage and ton-mileage.—During these 112 days she transported a total of 7,410 tons, or 67.5 tons per day, and traversed 8,124 miles, or 73 miles per day; the total ton-mileage has been increased from 1,800,000 ton-miles in 1914 to 2,900,000 ton-miles for the spring season ending June 30, 1915, bringing the ton-mile capacity per day from 18,600 last year to 26,000 ton-miles this year, an increase of 50 per cent over last year.

Total fuel consumption.—The total fuel consumption was 5,847 barrels with a value of $4,310.46, or 58 cents per ton and 54 cents per mile against a cost of 66 cents per ton and 48 cents per mile in the spring of 1914.

Cost of transportation.—The cost of transportation per mile has been reduced from $2.07 in 1913 to $1.78 in 1914 and $1.27 in the first half year 1915; the cost of transportation per ton has been reduced from $2.89 in 1913 to $2.23 in 1914 and $1.40 in the first half year 1915; the cost of transportation per ton-mile has been reduced from 7.1 mills in 1913 to 5.5 in 1914 and 3.48 mills in the first half year 1915.

July 1 to September 30.

In the three months, July to September, inclusive, the towboat *A. M. Scott* traversed in 92 days 7,828 miles, or 85 miles per day, against 73 miles per day in the first part of the year.

Out of a total of 2,208 hours she was actually running in tow 1,135¼ hours, or 51.5 per cent; she was delayed by navigation trouble 83½ hours, or 3.85 per cent; by rudder and other machinery repair 46¾ hours, or 2.1 per cent; delayed by darkness, rain, and storm while running downstream 234 hours, or 10.65 per cent; while running upstream 96 hours, or 4.4 per cent; delayed by bunkering oil 76¾ hours, or 3.5 per cent; delayed by loading at way points 34¾ hours, or 1.5 per cent; she was held at East St. Louis 227½ hours, or 10.2 per cent, and at the home port, Kansas City, 273½ hours, or 12.3 per cent.

Tonnage and ton-mileage.—During these 92 days she transported a total of 6,354 tons, or 68 tons per day, against 67.5 tons in the first part of the year. The ton-mileage increased to 5,539,610 ton-miles, showing a daily ton-mile capacity of 28,690 and an hourly ton-mile capacity of 1,195.

Fuel consumption.—The total fuel consumption for the whole year up to October 1 was 10,866 barrels, with a value of $8,719, or 80 cents per barrel, 63.5 cents per ton, and 55½ cents per mile, against a cost of 59 cents per mile in 1914 and $1.03 per mile in 1913.

TOWBOAT "ADVANCE"—REPORT OF FIRST HALF OF NAVIGATION SEASON, 1915.

March 2 to June 30.

The steamer *Advance* entered her regular service on March 2, 1915, leaving East St. Louis with the barge *Gamma* at 6.30 a. m., and had traversed by June 30, 1915, in 121 days of service, 7,776 miles, or an average of 64.5 miles per day.

Out of a total of 2,895½ hours, she was under way downstream or upstream 1,200 hours, or 41.5 per cent of the total time, and traversed 7,776 miles, or an average of 6.5 miles per running hour downstream and upstream, while the *Scott* traversed 8,124 miles in 1,404½ hours, or an average of 5.8 miles per running hour downstream and upstream.

The *Advance* was delayed by navigation trouble 190¾ hours, or 6.6 per cent; by loading and unloading, under way 62½ hours, or 3 per cent; by machinery and boiler trouble, 118¼ hours, or 4.1 per cent; by bunkering oil, 97 hours, or 3.3 per cent; delayed by storm, rain, fog, and darkness, while running upstream, 194¼ hours; and while running downstream 294¼ hours, or a total of 16.8 per cent; and she was held at St. Louis for 164 hours, or 5.7 per cent, and at the home port, Kansas City, for 550½ hours, or 19.1 per cent.

Tonnage and ton-mileage.—During the 121 days of service she transported a total of 6,530 tons, or 54½ tons per day, and reached by June 30, a total ton-mileage of 2,361,500, bringing her ton-mile capacity per day to 20,300 ton-miles.

Fuel-oil consumption.—The fuel-oil consumption was 4,591.14 barrels, with a value of $3,531.48, or 54 cents per ton and 45 cents per mile.

Cost of transportation.—The cost of transportation per mile has been reduced from $1.90 in 1914 to $1.22 in the first part of 1915; the cost of transportation per ton has been reduced from $3.99 in 1913 to $2.60 in 1914 and $1.44 in the first part of 1915.

The cost of transportation per ton-mile has been reduced, from 9.75 mills in 1913 to 6.37 mills in 1914 to 3.78 mills in the first part of the year 1915.

July 1 to September 30.

In the three months, July to September, inclusive, the tow boat *Advance* traversed in 92 days of service 7,948 miles, or 86.5 miles per day, against an average of 64.5 miles per day in the first part of the season.

Out of a total of 2,208 hours of service she was running in tow 1,115 hours, or 50.5 per cent; delayed by navigation trouble 69¾ hours, or 1.8 per cent; delayed by loading at way stations, 57¾ hours, or 2.6 per cent; delayed by darkness, rain, fog, and storm while running upstream, 104½ hours, or 4.7 per cent; while running downstream, 225¼ hours, or 5.7 per cent; and at Kansas City 390¼ hours, or 17.6 per cent.

Tonnage and ton-mileage.—During these 92 days she transported a total of 6,462 tons, or 70 tons per day, against an average of 54½ tons per day in the first part of the season, and reached by October 1 a total ton-mileage of 5,148,021, bringing her daily ton-mile capacity for the year to October 1 to 24,200 ton-miles, against a daily ton-mile capacity of the *Scott* of 27,000 ton-miles.

Fuel-oil consumption.—The total fuel-oil consumption for the whole year up to October 1 was 8,161 barrels, with a value of $6,753, or 83 cents per barrel, and 52 cents per ton and 43 cents per mile, against a cost of 59.5 cents per mile in 1914.

TOWBOAT "A. M. SCOTT"—REPORT ON SEASON 1914.

The towboat *A. M. Scott* was in service in 1914, 261 days, against 205 days in 1913. During the first part of the year, until June 30, she had to wait for freight 22 days out of 97 days, leaving her 75 days for operation, 54 per cent of which time she was actually running, while she was delayed by navigation trouble 6 per cent of this time, by propeller and rudder trouble 2 per cent, by bunkering oil 3 per cent. During the 75 days she was transporting 4,438 tons, or 59 tons per day, and traveling 6,150 miles, or 82 miles per day, reaching a daily ton-mile capacity of 24,500 ton-miles, or an hourly capacity of 1,000 ton-miles. And including all lay ups her capacity for the high-water season still figures 18,600 ton-miles per day and 775 ton-miles per hour.

During the second part of the year, from July 1 to December 11, she had to wait for freight 41 days, leaving her 123 days out of a total of 164 days for operation. Out of these 123 days, however, she was delayed on account of insufficient water 30 days and on account of rudder and propeller trouble 22 days, leaving her only 71 days in which she was transporting tonnage, so that in the whole year of 1914 she was actually transporting freight only 146 days, or 56 per cent of the total time she was in service, while in 1913 she was running 150 days out of a total of 205 days, or 73 per cent of the total time she was in service. Her hourly ton-mile capacity for 1914 was 494 ton-miles.

The delay on account of freight for the whole year amounted to 63 days, or 24 per cent of the total time, and the delay on account of insufficient water 30 days, or 11½ per cent of the total time, so that the most serious delay of the year was the waiting for freight, which delay again was caused by insufficient service caused by insufficient water.

Efficiency of season.—During the 261 days the *A. M. Scott* was in service she was actually running 26.4 per cent of the time, delayed by insufficient freight, loading and unloading time, 17.4 per cent; on account of insufficient water, 10.2 per cent; on account of propeller and rudder trouble, 6.1 per cent; on account of bunkering oil, 1.8 per cent; on account of machinery trouble, 0.2 per cent; while she was laid up for darkness, fog, or storm 37.9 per cent of her time.

During 1913 her actual running efficiency was 33 per cent, so that there is a decrease to be noted of 6.6 per cent.

Tonnage.—The total tonnage moved downstream in 1914 is 4,509.65 tons, against 1,709.5 tons in 1913, or an increase of 164 per cent. The total tonnage moved upstream in 1914 is 3,312 tons, against 4,170 tons in 1913, or a decrease of 20 per cent.

Mileage.—The total mileage traversed in 1914 was 9,730 miles, against 5,740 miles in 1913, or an increase of 70 per cent.

Ton-miles.—The ton-mileage of 1914 was downstream 1,848,956, against 700,000 in 1913, and upstream 1,249,782, against 1,710,000 in 1913, or a total of 3,098,738, against 2,410,000 in 1913, showing an increase of 688,738 ton-miles, or 27.7 per cent.

Speed of operation.—The down trips were made in as short a time as 46¼ hours and as long a time as 600 hours, or have ranged from 2 days to 25 days. During the first part of the season, until June 30, the average elapsed time for the down trip was 108 hours and the average elapsed time for the up trip was 120 hours. In the second part of the season, however, the average elapsed time for the down trip was 300 hours and for the up trip 212 hours. This is due to the trouble the boat and barges experienced in the low-water season. The lighterage system, arrangements for which have been made for 1915 by the construction of four lighters, will improve these conditions in the low-water period for 1915. The actual running hours downstream averaged 45 hours and upstream 90 hours for the whole season and the various barges.

Fuel consumption.—The fuel consumption for 1914 was 6,233 barrels, at a value of $5,775.26, or at a price of 93 cents per barrel, against the fuel consumption in 1913 of coal and oil at a value of $5,919.53. As the tonnage hauled in 1914 was 7,613 tons, against the 1913 tonnage of 5,881 tons, the actual fuel cost per ton has been reduced from $1 in 1913 to 76 cents in 1914, or an improvement of 24 per cent.

Cost of transportation.—The cost of transportation has been reduced from 7.1 mills in 1913 to 5.5 mills in 1914, or by 22.6 per cent; the terminal expense has been reduced from 87 cents per ton in 1913 to 55½ cents per ton in 1914, or 36 per cent. The total cost of operation (transportation plus terminal) has been reduced from $3.76 per ton, or 9.24 mills per ton-mile, in 1913 to $2.78 per ton, or 6.86 mills per ton-mile in 1914, a reduction of the cost of transportation of 26 per cent.

TOWBOAT "ADVANCE."

The towboat *Advance* shows a marked increase of efficiency in 1914 over 1913. Its power was increased from 140 to 600 horsepower, resulting in an increase of pushing power from 515 ton-miles per running hour upstream in 1913 to 1,290 ton-miles per running hour in 1914 upstream, or an increase of 150 per cent. As she was only in service from August 3, she had only 131 days of service against 185 in 1913, or if 240 days are taken as the length of the navigation season she had only 55 per cent service; but the tonnage handled per day of service during the low-water season only has increased from 9 tons in 1913 to 26 tons in 1914, or 189 per cent.

Efficiency.—Of the 131 days in service she was only running 23.6 per cent of the time, against 26 per cent of time in 1913; she was laid up for nights 49.7 per cent of her time, lost loading and waiting for freight 9.9 per cent, was delayed on account of navigation trouble 8.75 per cent, delayed on account of rudder trouble 6.65 per cent, and delayed on account of bunkering fuel oil 2.83 per cent.

Ten days she was laid up for finishing constructional work, 14 days she lost waiting for freight, and 8 days on account of insufficient water, leaving her 99 days for actual operation, 31 per cent of which time she was actually running, and during which time she was transporting 3,414 tons, or 34½ tons per day, and traveling 4,460 miles, or 47 miles per day, reaching a daily ton-mile capacity of 14,000 ton-miles, or an hourly capacity of 585 ton-miles.

For the 131 days in service, or the season, her daily ton-mile capacity figures 10,600 ton-miles, and her hourly capacity to 440 ton-miles.

Tonnage.—The total tonnage moved downstream was 1,966.45 tons in 1914, against 627½ tons in 1913, showing an increase of 213 per cent. The total tonnage moved upstream was 1,447.45 tons in 1914, against 1,065 tons in 1913, showing an increase of 36 per cent.

Mileage.—The total mileage traveled in 1914 was 4,660 miles, against 6,560 miles in 1913, or a decrease of 29 per cent, as the boat was not put in service before August 3, 1914, due to work of reconstruction.

Ton-mileage.—The ton-mileage of 1914 was downstream 708,000 ton-miles, against 257,275 in 1913, and upstream 493,044 ton-miles in 1914, against 436,650 in 1913, or a total of 1,201,044 ton-miles in 1914, against 693,925 in 1913, showing an increase of 73½ per cent.

Fuel consumption.—The fuel consumption for 1914 was 3,147 barrels, representing $2,777, or 88 cents per barrel, while in 1913 only 1,634 barrels were consumed, representing $1,634, or $1 per barrel. This increase in fuel is due to the increased power production, and, if expressed in barrels per ton-mile, 1,201,044 ton-miles were made with $2,777 worth of fuel oil, or 1 ton-mile with 2.3 mills cost of fuel oil, while in 1913 1 ton-mile was made with 2.35 mills cost of fuel oil, showing no increase of fuel consumption per ton-mile in spite of the unfavorable low-water season of 1914.

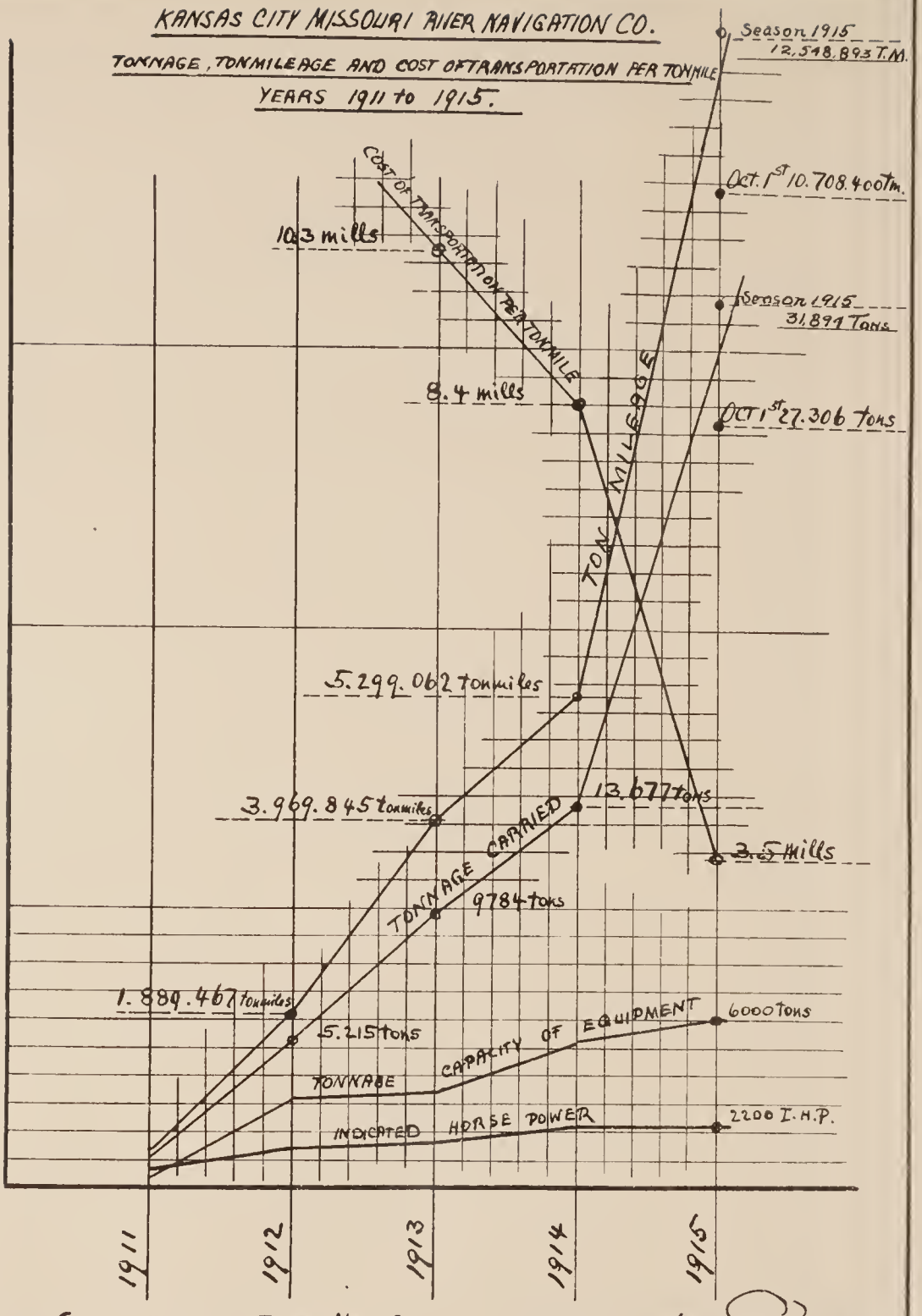
Ton-mile capacity.—The ton-mile capacity of the *Advance* per hour elapsed time downstream, which means from the time she left Kansas City to time she arrived in St. Louis, has been:

Downstream trip.	Ton-miles per hour.	Speed (miles per hour).	Barge.	Downstream trip.	Ton-miles per hour.	Speed (miles per hour).	Barge.
First	720	1.42	Endeavor.	Fourth	318	3.13	Epsilon.
Second	2,630	4.1	Gamma.	Fifth	435	2.3	Gamma.
Third	1,330	5.25	Delta.	Sixth	365	1.33	Delta.

This shows an average downstream capacity of 966 ton-miles per hour and 2.68 miles per hour speed; and, if the movement of the model barges is considered exclusively, was 1,015 ton-miles per hour, with 3.22 miles per hour speed.

The average ton-mile capacity and the average speed in miles per hour upstream has been as follows:

Upstream trip.	Ton-miles per hour.	Speed (miles per hour).	Barge.	Upstream trip.	Ton-miles per hour.	Speed (miles per hour).	Barge.
First	475	1.3	Beta.	Fourth	275	2.74	Gamma.
Second	1,270	3.3	Delta.	Fifth	320	1.25	Beta.
Third	346	2.58	Epsilon.				



KANSAS CITY MISSOURI RIVER NAV. CO.
WALTAR S. DICKEY. PRES.

COMPILED BY M. von Tagenhardt
NAVAL ARCHITECT.

THE NORRIS PETERS CO., WASHINGTON, D. C.

House Doc. No. 463 ; 64th Cong., 1st Sess.

Therefore, the average upstream capacity was 537 ton-miles and the speed 2.23 miles per hour. If the movement of the model barges is considered exclusively, the average capacity was 630 ton-miles and the speed 2.87 miles per hour, or superior to the movement of the heavy barges by 60 per cent in ton-mile capacity and by 126 per cent in speed.

Tonnage statement, 1914.

Boat.	Down-stream.	Upstream.	Total.
	Tons.	*Tons.*	*Tons.*
Advance	1,966.45	1,447.45	3,413.90
Chester	928.80	1,512.75	2,441.55
A. M. Scott	4,509.65	3,312.20	7,821.85
Total	7,304.90	6,472.40	13,677.30

Ton-mileage statement.

TOWBOAT "ADVANCE."

		Ton-miles.
Downstream:		
1,966.45 tons, 410 miles		706,245
Upstream:		
1,138.95 tons 410 miles	466,969	
103.5 tons 50 miles	5,175	
205 tons 100 miles	20,500	
		493,044
Total *Advance*		1,199,289

TOWBOAT "A. M. SCOTT."

Downstream:		
4,509.65 tons 410 miles		1,848,956
Upstream:		
2,982.70 tons 410 miles	1,222,907	
121.50 tons 50 miles	6,075	
208 tons 100 miles	20,800	
		1,249,782
Total *A. M. Scott*		3,098,738

STEAMER "CHESTER."

Downstream, 928.80 tons 410 miles	380,808	
Upstream, 1,512.75 tons 410 miles	620,227	
Total *Chester*		1,001,035
Grand total		5,299,062

KANSAS CITY MISSOURI RIVER NAVIGATION CO.

Special report: Comparison 1913, 1914, and to Oct. 1, 1915.

	1913	1914	Increase on saving.	To Oct. 1, 1915.	Increase on saving.
			Per cent.		*Per cent.*
Total tonnage hauled	9,784	13,677	40	27,306	100
Total mileage	19,784	21,734	10	32,004	47
Total ton-mileage	3,969,845	5,299,062	33½	10,708,344	104
Cost per ton:					
Fuel expense	$1.24	$0.89	28	$0.58	35
Wages, supplies	$3.04	$2.52	17	$0.82	67
Wharf labor	$0.81	$0.63	22	$0.66	[1] 4.7
Total cost of operation per ton	$5.09	$4.04	20½	$2.06	49
Cost of transportation, wages, supplies, fuel, etc.:					
Per ton	$4.28	$3.41	20	$1.40	59
Per ton-mile	$0.00103	$0.0084	22	$0.00358	57
Total boat hours	13,265	12,591	5	10,004½	.....
Ton-miles—boat hours	300	420	40	1,075	156

[1] Loss.

Report of first half year 1915: Comparison of towboats A. M. Scott and Advance.

March 1 to June 30.	A. M. Scott.	Advance.
Mileage	8,124	7,776
Tonnage	7,198.44	6,697.59
Ton mileage	2,871,496	2,565,819
Cost per mile	$1.27	$1.22
Cost per ton	$1.44	$1.44
Transportation per ton mile	$0.00348	$0.00378
Transportation per day	$89.43	$75.14

Report of first half year 1915: Comparative cost per day of towboats A. M. Scott and Advance.

March 1 to June 30.	Expenditures in dollars.							
	Misc. repairs.	Wages.	Fuel.	Lubrication.	Food.	Misc. supplies.	Misc. expense.	Total.
A. M. Scott	$3.75	$33.59	$39.73	$1.19	$8.57	$1.63	$0.99	$89.43
Advance	4.09	32.74	27.30	1.09	8.78	1.14	.39	75.14

Memorandum.—Total tonnage to Oct. 17, 1915: A. M. Scott, 14,611.39 tons; Advance, 13,815.19 tons; total, 29,032.5 tons. And towing.

General report: Comparison 1913–1914.

	1913	1914	Increase.		1913	1914	Increase.
Total tonnage hauled	9,784	13,677	*Per cent.* 40	Cost of transportation (wages, supplies, fuel) per ton.	$4.28	$3.41	*Per cent.* 20
Total ton-miles	3,969,845	5,299,062	33½	Total mileage	19,784	21,734	[2] 10
Cost per ton:				Total boat hours	13,265	12,591	[1] 5
Fuel expense	$1.24	$0.89	[1] 28	Ton-miles — Boat hours	300	420	[1] 40
Wages-supplies	$3.04	$2.52	17				
Wharf labor	$0.81	$0.63	22				
Total cost of operation	$5.09	$4.04	20½				

[1] Saving. [2] Increase.

Comparison of transportation and terminal expenses, per ton and ton-mile, steamers A. M. Scott, Advance, and Chester. Service, Kansas City–St. Louis. Distance, 408 miles. 1913.

	Towboat A. M. Scott.	Towboat Advance.	Packet boat Chester.	Average.
Transportation expenses:				
Per ton, in dollars	$2.80	$3.99	$5.91	$4.23
Per ton-mile, in mills	6.85	9.75	14.5	10.3
Loading (terminal) expenses:				
Per ton, in dollars	$0.87	$0.95	$0.77	.81
Per ton-mile, in mills	2.13	2.34	1.89	2.00
Total expenses:				
Per ton, in dollars	$3.67	$4.94	$6.68	5.04
Per ton-mile, in mills	8.98	12.1	16.3	12.3

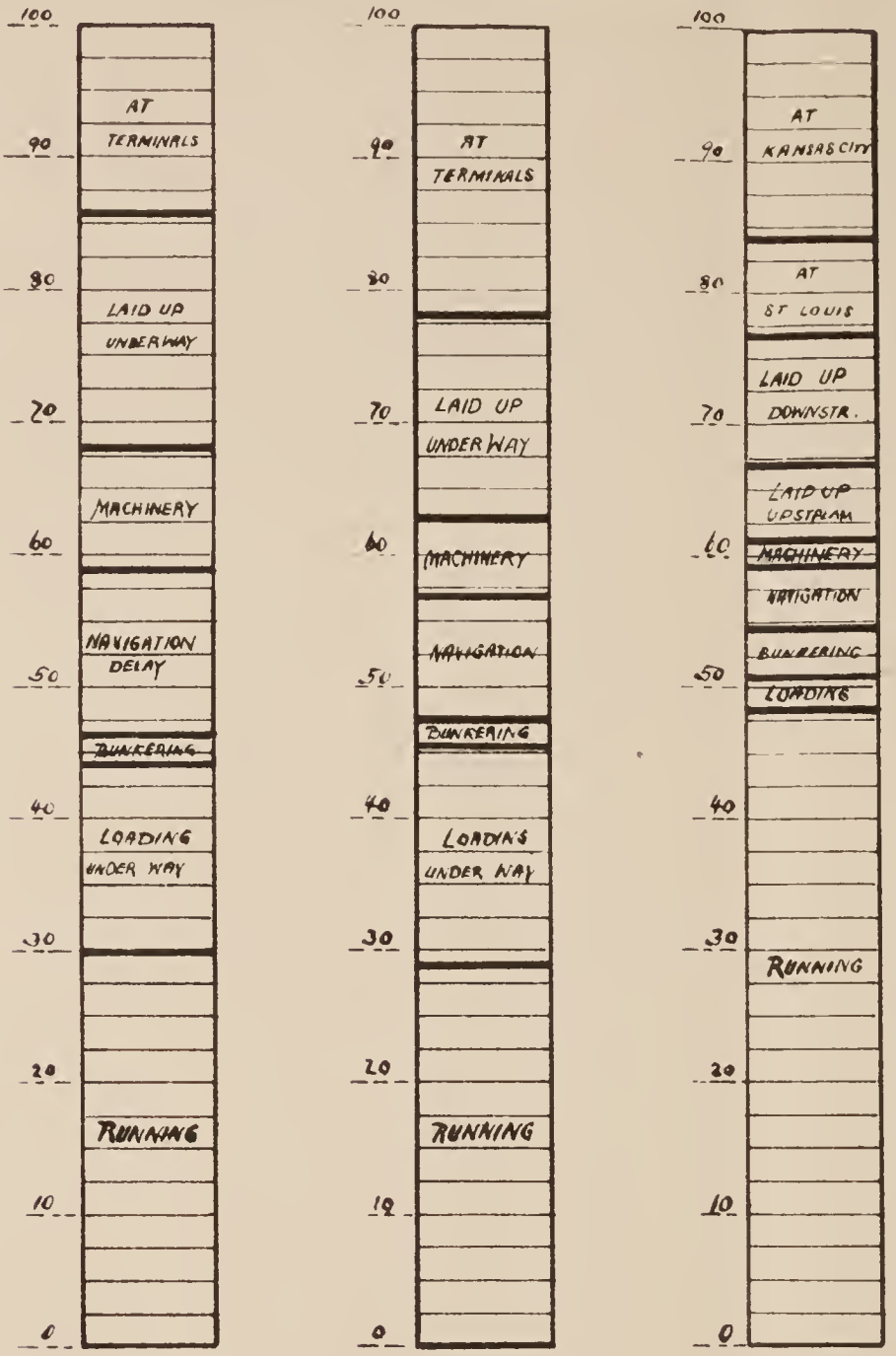
Towboat A. M. Scott. Division of expenses of operation, per ton and ton-mile. Boat in service between Kansas City and St. Louis, 205 days. Distance, 408 miles. 1913.

Divisions.	Wages.	Fuel.	Food.	Lubrication.	Misc. expense.	Repair.	Terminal.	Total.	Tonnage.
Total expenses	$6.916	$5.919	$2.215	$0.217	$0.538	$0.679	$5.136	$21.547	.....
Expense per ton	$1.18	$1.00	$0.38	$0.037	$0.092	$0.115	$0.87	$3.67	$5.881
Expense per ton-mile, mills	2.9	2.46	93	.091	.22	.28	2.14	9	.....

Average horsepower, 600.
Average tonnage upstream, 520.
Average tonnage downstream, 245.

Average speed upstream, 3.1 miles.
Average estimated current, 3 to 4 miles per hour.
Total running efficiency, 33 per cent.

RUNNING EFFICIENCY PER YEAR



KANSAS CITY MISSOURI RIVER NAVIGATION CO.

WALTER S. DICKEY PRES.

COMPILED BY: M. von Tagenhardt

Comparison of hours running, delayed by navigation trouble, machinery trouble, loading underway and at terminals, bunkering, and delay by darkness, storm, and fog to Oct. 1, 1915, towboats "A. M. Scott" and "Advance."

		Running.	Navigation delay.	Loading under way.	Machinery delay.	Bunkering.	Delayed.		Terminals.		Total hours under way.	Total hours in service.
							Up.	Down.	St. Louis.	Kansas City.		
A. M. Scott	Hours	2,539¾	156½	81¾	76¾	212¼	284¼	459¾	452	637	3,811	4,901
	Percent.	51.8	3.2	1.67	1.56	4.32	5.85	9.40	9.3	12.9	77.8	100
Advance	Hours	2,315	260½	144¼	157	178¾	298¾	519½	289	940¾	3,873¾	5,103½
	Percent.	45.4	5.1	2.8	3.1	3.6	5.9	10	5.6	18.5	75.5	100
Total	Hours	4,854¾	417	226	233¾	391	583	979¼	741	1,577¾	7,684¾	10,004½
	Percent.	48.5	4.17	2.26	2.33	3.91	5.83	9.79	7.41	15.77	76.8	100

Comparison of hours running, delayed by navigation trouble, machinery trouble, loading under way and at terminals, bunkering, and delay by darkness, storm, and fog, towboats "A. M. Scott" and "Advance" and steamer "Chester," 1914.

	Running.	Loading under way.	Navigation delay.	Machinery delay.	Bunkering.	Layup.	Total.
A. M. Scott	1,651	1,089	643	400	113	2,369	6,255
Advance	741	286	275½	209½	89¼	1,585¼	3,144
Chester	1,249	709½	270¾	96¼	39¾	826¾	3,192
Total boat hours	3,641	2,084½	1,189¼	705¾	242	4,781	12,591
Percentage of total	28.9	16.5	9.45	5.6	1.9	37.65	100

Comparison of hours running, delayed by navigation trouble, machinery trouble, loading under way and at terminals, bunkering, and delay by darkness, night, and fog, towboats "A. M. Scott" and "Advance" and steamer "Chester," 1913.

	Running.	Loading under way.	Navigation delay.	Machinery delay.	Bunkering	Layup.	Total.
A. M. Scott	1,627	395	723	504	170	1,498	4,920
Advance	1,127	381	462	602	53	1,750	4,385
Chester	1,177	1,132	490	½	45	1,004	3,960
Total boat hours	3,931	1,908	1,675	1,218	268	4,252	13,265
Percentage of total	29.8	14.4	12.6	9.6	2.0	32.1	100

Operating efficiency Mar. 1 to June 30, 1915, service Kansas City–St. Louis.

Towboat.	"A. M. Scott."		"Advance."	
	Hours.	Per cent.	Hours.	Per cent.
Hours actually running	1,404½	52	1,200	41.5
Hours navigation trouble	73	2.7	190¾	6.5
Hours loading under way	47	2.0	86½	3.0
Hours machinery trouble	30	1.1	118¼	4.1
Hours bunkering oil	135.5	5.0	97	3.3
Hours delayed by storm, rain, fog, darkness:				
Upstream	188¼	7.0	194¼	6.6
Downstream	225¾	8.7	294¼	10.2
Hours held at St. Louis	225	8.3	164	5.7
Hours held at Kansas City	364	13.2	550½	19.1
Total hours in service	2,693	100.0	2,895½	100.0
Efficiency	.....	52.0	.....	41.5

Monthly season's efficiency, tugboat A. M. Scott, service 261 days, 1914.

	April.	May.	June.	July.	August.	September.	October.	November and December.	Season.	Per cent.
Hours running	268¾	347¼	362	146	204	111	96	115½	1,651	26.4
Hours loading	181	89	150	130	25	160	240	114	1,089	12.4
Hours navigation	49	51	5	130	123	3	.....	282	643	10.2
Hours, propeller and rudder	28	8	.....	106	87	78	60	17	384	6.1
Hours, machinery	.....	.....	.....	16	.....	.....	.....	.....	16	.2
Hours bunkering	15½	20	16	8	15	27	7	5	113	1.8
Hours, night and fog	524¼	229½	187	208	290	341	341	450	2,369	31.9
Total hours in service	865	744	720	744	744	720	744	984	6,255	100

Speed of operation, tugboat A. M. Scott, 1914.

Trips.	Downstream.		Upstream.		Trips.	Downstream.		Upstream.	
	Running hours.	Actual hours elapsed.	Running hours.	Actual hours elapsed.		Running hours.	Actual hours elapsed	Running hours.	Actual hours elapsed.
1	49	176	107¾	139¼	9	68¼	581	87	218¼
2	35¼	76½	77½	148½	10	57½	179½	79¼	178½
3	42¼	115	88½	118½	11	44½	82½	81½	258¼
4	50	88½	79½	95¼	12	51¼	600	.....	.....
5	39¾	98	103¾	122¾	Low water	(50)	(300)	(88)	(212)
6	34¼	52¾	95¾	116¼					
7	33½	51¾	80¾	93½					
8	31½	46¼	100	195					
High water season	(42)	(108)	(90)	(120)	Total average	45	188	90	153

Monthly and season's time record, tugboat A. M. Scott. Total days in service, 205. 1913.

1913	May.		June.		July.		August.	
	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.
Total hours in service	744	100	720	100	744	100	744	100
Hours actual running	294	40	375	52	262	35	166	22.5
Hours loading, unloading	132	18	69	10	94	13	48	6.5
Hours machinery, boiler repairs	107	14	29	4	211	28	2	.....
Hours navigation trouble	33	4.5	42	6	65	9	183	25
Hours coaling	.....	.....	.....	.....	.....	.....	75	10
Hours laid up for night, etc	178	23.5	198	28	112	15	270	36

1913	September.		October.		November.		Season.	
	Hours	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.
Total hours in service	720	100	744	100	504	100	4,920	100
Hours actual running	191	26	158	21	180	36	1,627	33
Hours loading, unloading	7	1	42	5.5	3	.....	395	8
Hours machinery, boiler repairs	3	.....	115	15.5	37	7.5	504	10
Hours navigation trouble	201	28	174	23	25	5	723	15.5
Hours coaling	50	7	33	5	12	2.5	170	3.5
Hours laid up for night, etc	271	38	222	30	247	49	1,498	30

Efficiency of operation, 33 per cent.

Monthly operating efficiency, towboat Advance, 1914.

	August.		September.		October.		November and 12 days in December.		Season.	
	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.
Hours actual running	163	24.8	219½	30.4	152	20.2	206½	20.8	741	23.6
Hours loading	9	1.8	80	11.1	170	22.8	27	2.7	286	9.1
Hours navigation delay	95	12.9	4	.5	56	7.2	120½	12.1	275½	8.75
Hours machinery delay	67	9.8	80	11.4	1½	.....	61	6.1	209½	6.65
Hours bunkering	17¼	3	13	1.8	14	1.4	45	4.5	89¼	2.83
Hours lay up, night and fog	320¾	47.7	323½	44.8	356	48.4	548	53.8	1,585¼	49.07
Total hours	672	100	720	100	744	100	988	100	3,144	100

Operating efficiency per trip, towboat "Advance," 1914.

DOWNSTREAM.

	First.		Second.		Third.		Fourth.		Fifth.		Sixth.	
	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.
Hours actually running	70	24.3	43¼	44.1	33	42.3	40½	32.1	46¾	26.6	57¼	18.7
Hours loading	3¾	1.3	10¾	10.5	11½	14.8	1¼	.9	3	1.7	1¼	1.7
Hours navigation delay	76	26.4	½	.5	½	.5	12¼	18.1	40½	23.5	34½	12.0
Hours machinery delay	4½	1.5	.....	.....	.....	.....	1	.8	½	.5	2	.9
Hours bunkering	10¼	3.5	.....	.....	1½	1.9	3¾	3.8	3½	1.5	28	7.9
Hours lay up, night and fog	123½	43.0	43½	45.5	31	40.5	56½	44.5	81½	41.4	183	59.8
Total hours	288	100.0	98	100.0	78	100.0	130	100.0	175	100.0	306	100.0

UPSTREAM.

	First.		Second.		Third.		Fourth.		Fifth.		Season.	
	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.
Hours actually running	100	31.9	66¼	55.5	66⅛	42.0	65½	43.0	95	29.5	390⅞	36.7
Hours loading	5	1.5	5	4.6	2	1.5	7	4.7	1½	.....	20½	2.8
Hours navigation delay	18	5.7	3	2.4	12¾	7.5	7¾	4.8	37	11.7	68½	6.4
Hours machinery delay	62½	19.9	½	1.0	1	1.0	1	1.0	14½	11.8	77½	7.1
Hours bunkering	7	2.3	1¼	1.1	4½	2.0	3¾	2.0	15¼	4.9	31¾	3.0
Hours lay up, night and fog	121¾	38.8	45	36.5	73¾	47.0	67	45.0	160¾	49.1	468¼	44.0
Total hours	314¼	100.0	123	100.0	158¾	100.0	149	100.0	324	100.0	1,057⅜	100.0

Record of time used per trip, tugboat "A. M. Scott," Kansas City–St. Louis; distance, 408 miles, 1913.

DOWNSTREAM.

	Towing.													
	First trip, Alpha, Beta.		Second trip, Endeavor.		Third trip, Alpha, Handy, Advance.		Fourth trip, Beta.		Fifth trip, Endeavor.		Sixth trip, Alpha.		Seventh trip, Beta, Epsilon.	
	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.
Total	67¾	100.0	74	100.0	71	100.0	59½	100.00	217	100.0	436	100.0	323½	100.0
Running	40½	59.0	39¾	54.0	36	50.0	39¾	66.75	47¼	22.0	54½	12.5	64	18.8
Loading	1	1.5	6	8.1	14	20.0	2	3.25	71	32.0	40	9.0	42	13.0
Machinery trouble									32	15.0			4	1.2
Navigation trouble	1½	2.2							35	16.0	109	25.0	58	18.0
Coaling											58	13.5	13	4.0
Lay up	25¾	37.3	28	37.9	21	30.0	18	30.00	32	15.0	175	40.0	142	45.0

UPSTREAM.

	Towing.															
	First trip, Beta.		Second trip, Alpha.		Third trip, Beta.		Fourth trip, Endeavor.		Fifth trip, Alpha.		Sixth trip, Beta.		Seventh trip, G. D. E.		Eighth trip, Endeavor.	
	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.
Total	176½	100.00	111	100.00	231¼	100.0	159½	100.0	191	100.0	267	100.0	944	100.0	514	100.0
Running	99	56.00	108	97.75	155½	67.5	102½	64.5	128¾	67.0	138	51.0	255	27.0	170	34.0
Loading	7½	4.25	1	.90	7	3.0					½		7		3	
Machinery trouble			1½	1.35	7½	3.0	65	4.0	28	14.0	36	14.0	3		33	6.5
Navigation trouble	32	18.00			32	14.0	10	6.2	11	6.0	26	10.0	269	28.0	44	8.5
Coaling													65	7.0	16	3.0
Lay up	38	21.50			29¼	12.5	35	2.2	23	13.0	66	25.0	345	38.0	248	48.0

Monthly and yearly operating efficiency, towboat "Advance." Total days in service, 185. 1913.

1913	4 days in Mar. and April.		May.		June.		July.		August.		September.		Season.	
	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.
Total	809	100.0	744	100.0	720	100.0	744	100.0	744	100.0	624	100.0	4,385	100.0
Running	298	36.0	241	32.4	59	8.2	249	33.4	136	18.4	150	24.0	1,127	26.0
Loading	138	17.0	100	13.4	26	3.6	119	16.0	40	5.4	58	9.3	381	8.7
Navigation delay	12	1.5	13	1.7	1	.....	40	5.3	250	33.6	146	24.9	462	10.5
Machinery delay	9	1.1	72	9.7	317	43.5	66	9.0	46	6.2	2	.....	602	13.8
Lay up	358	44.4	318	42.8	317	43.5	270	36.3	272	36.4	268	46.3	1,803	41.0

Efficiency of season, 26 per cent.

ROUND TRIPS UPSTREAM.

	First.		Second.		Third.		Fourth.		Fifth.		Sixth.		Seventh.	
	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.
Total	203	100.0	171	100.0	148	100.0	174	100.0	175	100.0	528	100.0	332	100.0
Running	109	33.0	104	61.0	97	65.5	114	66.0	106½	61.0	108	20.0	101	31.0
Loading	5	2.5	2	1.1	1½	1.0	3	1.7	3	1.7	4	.7	15	4.5
Machinery delay	9	4.5	.....	.....	.....	.....	7½	4.2	15	8.6	185	35.0	2	.6
Navigation delay	.....	.....	2	1.0	8	3.0	1	5.0	1	.5	28	5.3	80	24.0
Lay up	80	40.0	64	37.0	47½	33.5	48½	27.6	39½	22.6	203	39.0	130	39.0

ROUND TRIPS DOWNSTREAM.

Total	84	100.0	91½	100.0	94	100.0	60	100.0	77	100.0	330	100.0	250	100.0
Running	43	51.5	35½	38.0	39	46.5	39½	63.3	41	52.0	57	17.0	73	30.0
Loading	3	3.5	12	13.0	7½	8.0	4	6.7	14	18.0	25	7.5	9	3.4
Navigation delay	2½	3.0	8	9.0	8	8.0	.....	.....	.....	.....	22	6.6	2	.8
Machinery delay	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	29	8.6	68	27.0
Lay up	35½	42.0	30	40.0	39½	37.5	16½	30.0	22	30.0	197	60.0	98	39.0

Monthly operating efficiency, steamer "Chester." Total days in service, 165. 1913.

1913	April.		May.		June.		July.		August.		September and 3 days in October.		Total season.	
	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.	Hours.	Per cent.
Total service	408	100.0	552	100.0	720	100.0	744	100.0	744	100.0	792	100.0	3,960	100.0
Actual running	126	30.9	202	36.6	287	40.0	226	30.6	217	29.2	119	15.0	1,177	30.0
Loading, unloading	69	16.9	87	15.8	122	17.0	152	20.5	79	10.6	43	5.4	552	14.0
Navigation trouble	20	4.9	4	.7	22	3.3	8	1.07	154	20.6	282	35.7	490	12.3
Machinery trouble	16	3.9	15	2.2	19	2.6	61	8.23	.....	.....	1	.1	112	2.2
Lay up for night, fog	177	43.4	244	44.7	270	37.1	297	39.7	294	39.6	347	43.8	1,629	41.5

Efficiency of season, 30 per cent.

Record of round trips, 1915.

Round trip.	"A. M. Scott."		"Advance."		Round trip.	"A. M. Scott."		"Advance."	
	Days.	Hours.	Days.	Hours.		Days.	Hours.	Days.	Hours.
First	10	10½	11	22¼	Eleventh	8	.....	6	13¾
Second	12	4½	8	8¾	Twelfth	7	23¼	7	12
Third	15	13¼	10	10½	Thirteenth	7	23	6	21
Fourth	7	10¾	16	13	Fourteenth	8	2⅓	9	2
Fifth	9	9	9	¾	Fifteenth	13	10¾	8	1½
Sixth	8	2½	14	5½	Sixteenth	11	2¾	10	12¼
Seventh	9	10½	7	3¾	Seventeenth	5	12⅙	6	11
Eighth	10	6	7	13¾	Eighteenth	8	9½	6	12
Ninth	5	18	11	13¼	Nineteenth	8	3	7	11¼
Tenth	7	4¼	8	3¼	Twentieth	11	16½	11	3

Record of round trips, 1914.

Round trip.	"A. M. Scott."		"Advance."		"Chester."	
	Days.	Hours.	Days.	Hours.	Days.	Hours.
First	18	8½	30	1	17	21
Second	11	9	10	4	11	14½
Third	10	21½	14	2½	13	2¼
Fourth	8	6¼	22	14	9	3¼
Fifth	10	1½	22	10	11	1
Sixth	14	22	.....	.....	10	1¾
Seventh	8	17	.....	.....	13	7½
Eighth	15	17	.....	.....	14	3½
Ninth	33	9	.....	.....	19	6½
Tenth	16	10½	.....	.....	.....	.....
Eleventh	42	7½	.....	.....	.....	.....
Average	17	8	19	20¾	13	7⅛

Record of round trips, 1913.

Round trip.	"A. M. Scott."		"Advance."		"Chester."	
	Days.	Hours.	Days.	Hours.	Days.	Hours.
First	12	18	15	9	16	1
Second	14	7	15	15	11	12
Third	11	7½	13	1	11	3½
Fourth	12	13½	15	11	12	13½
Fifth	21	12	19	11½	12	3½
Sixth	59	½	13	7	13	22
Seventh	35	14	38	12	17	2
Eighth	.....	.....	27	2	20	1½
Ninth	.....	.....	.....	.....	35	3
Average	23	16⅔	14	15¼	16	14¼

Tonnage, mileage, and ton-mileage of the fleet of the Kansas City Missouri River Navigation Co. from beginning of navigable season until June 30.

	1913	1914	Percentage of increase in 1914.	1915	Percentage of increase in 1915.
			Per cent.		*Per cent.*
Mileage	10,408	10,100	[1]3	16,470	64
Tonnage	3,642.5	5,827.8	60	14,000	140
Ton-mileage	1,456,800	2,331,120	60	5,360,965	130
Days of service	95	97	2	121	25
Tonnage per day	38	60	58	116	93
Miles per day	105	104	.....	136	30
Ton-miles per day	15,300	24,000	57	44,500	85

[1] Decrease.

Fuel consumption (in barrels and dollars) per round trip Mar. 1 to June 30—Service Kansas City to St. Louis.

Trip No.	Barrels.	Value.	Trip No.	Barrels.	Value.
Towboat A. N. Scott:			Towboat Advance:		
First trip up	285.07	$214.60	First trip up	261.45	$182.93
First round trip	603.12	443.31	First round trip	447.85	315.68
Second round trip	836.64	673.74	Second round trip	484.32	362.26
Third round trip	884.34	598.25	Third round trip	462.95	320.61
Fourth round trip	484.00	343.75	Fourth round trip	560.50	558.06
Fifth round trip	448.35	322.22	Fifth round trip	416.71	335.27
Sixth round trip	528.60	390.25	Sixth round trip	571.21	430.78
Seventh round trip	575.85	413.19	Seventh round trip	429.14	323.09
Eighth round trip	705.71	521.30	Eighth round trip	456.61	343.17
Ninth round trip	496.00	389.85	Ninth round trip	460.40	359.63
Total	5,847.68	4,310.46	Total	4,591.14	3,531.48

A. N. Scott, total tonnage, 7,408; cost per ton 58 cents. Advance, total tonnage, 6,530; cost per ton 54 cents.

Tonnage, ton-miles per hour, and speed, Mar. 1 to June 30, 1915, upstream—Service, Kansas City to St. Louis.

(Distance, 408 miles.)

TOWBOAT A. N. SCOTT (700 HORSEPOWER).

Trip No.	Barge.	Running time.	Elapsed time.	Tonnage.	Ton-miles, running hour.	Ton-miles, elapsed hour.	Speed, running hour.	Speed, elapsed hour.
1	Delta	72.00	137.00	113.26	646	340	5.7	3.00
2	Alpha	108.45	139.45	248.49	915	720	3.7	2.9
3	G. E.	141.30	216.00	307.46	1,150	760	2.9	1.9
4	Alpha	119.00	169.00	493.15	1,700	1,200	3.44	2.43
5	Gamma	87.00	98.45	295.70	1,375	1,215	4.70	4.1
6	Alpha	113.30	137.30	471.50	1,690	1,415	3.60	3.00
7	Epsilon	89.50	132.00	320.75	1,440	1,000	4.5	3.1
8	Endeavor	111.40	145.30	560.27	2,010	1,550	3.66	2.8
9	Beta	127.40	190.00	553.40	1,770	1,190	3.20	2.15
10	Delta	86.45	92.40	425.20	1,965	1,870	4.73	4.42
	Average.	110.08	146.00	387.9	1,466	1.126	3.72	2.8

TOWBOAT ADVANCE (600 HORSEPOWER).

1	Gamma	72.30	155.15	328.84	1,850	860	5.65	2.62
2	Epsilon	74.50	139.00	270.69	1,415	800	5.45	3.00
3	Delta	77.15	102.00	226.56	1,210	910	5.35	4.00
4	Endeavor	95.15	151.30	350.67	1,500	945	4.30	2.7
5	D. E.	128.15	172.00	573.25	1,830	1,350	3.2	2.37
6	Endeavor	82.15	119.00	550.41	2,750	1,900	5.00	3.44
7	Beta	126.00	265.45	480.60	1,560	730	3.25	1.54
8	Delta	76.00	101.45	272.50	1,470	1,090	5.40	4.00
9	Gamma	76.15	98.30	237.96	1,270	988	5.34	4.15
10	Alpha	135.45	183.45	362.70	1,088	810	3.00	2.22
	Average.	94.42	148.30	365.42	1,597	1,038	4.35	2.75

NOTE.—Endeavor, 233 by 41 by 7; Alpha and Beta, 200 by 36 by 8; Gamma, Delta, and Epsilon, 156 by 30 by 8.

"A. M. Scott."—Speed, tonnage, ton-miles, and fuel per trip, high and low water season, and season, 1914.

	Speed, miles per hour.				Tonnage.	
	Down.		Up.		Down.	Up.
	Running.	Actual.	Running.	Actual.		
High-water season:						
First round trip	8.30	2.32	3.80	2.94	176.7	123.4
Second round trip	11.50	5.35	5.3	1.75	98.4	205.1
Third round trip	9.70	3.55	4.7	3.46	398.1	198.6
Fourth round trip	8.15	4.50	5.15	4.30	588.5	313.8
Fifth round trip	10.30	4.20	4.0	3.32	169.2	403.2
Sixth round trip	12.00	7.80	4.3	3.50	442.5	241.5
Seventh round trip	12.20	7.90	5.1	4.38	541.3	231.9
Total	10.3	5.09	4.62	3.52	2,114.7	1,847.5
Low-water season:						
Eighth round trip	13.00	8.85	4.08	2.10	176.3	323.0
Ninth round trip	6.00	.70	4.70	1.87	1,186.0	296.5
Tenth round trip	7.10	2.28	5.88	2.30	149.35	230.4
Eleventh round trip	9.20	5.00	5.00	1.58	318.65	285.4
Twelfth round trip	8.00	.68	.....	.....	264.50	208.0
Total	8.66	3.5	4.91	1.96	2,094.80	1,343.3
Grand total	9.15	4.42	4.73	3.00	374	276

	Ton-miles.				Fuel per round trip.	
	Down.		Up.		Barrels.	Value.
	Running.	Actual.	Running.	Actual.		
High-water season:						
First round trip	1,460	410	468	363	551.26	$584.34
Second round trip	1,130	525	1,085	565	412.00	407.88
Third round trip	3,840	1,410	1,400	1,035	420.4	397.28
Fourth round trip	4,800	2,650	1,770	1,475	374.0	345.58
Fifth round trip	1,740	710	1,620	1,340	420.5	377.95
Sixth round trip	5,300	3,440	1,030	845	521.0	464.59
Seventh round trip	6,600	4,180	1,080	930	411.5	338.74
Total	3,553	1,918	1,206	936	444.38	416.61
Low-water season:						
Eighth round trip	2,300	1,160	1,315	680	484.5	413.65
Ninth round trip	7,120	830	1,400	555	873	786.65
Tenth round trip	1,060	342	1,350	530	473	435.70
Eleventh round trip	2,930	1,600	1,415	450	682	644.95
Twelfth round trip	2,120	180	.....	.....	550	521.30
Total	13,106	902	1,370	554	6,166.0	5,604.50
Grand total	3,366	1,495	1,266	796	516.89	476.58

Towboat "Advance."—Tonnage, speed, and ton-miles per trip, 1914.

Trip No.	Tonnage.			Miles per hour.		Miles per elapsed hour.		Ton-miles.			
								Running hours.		Elapsed hours.	
	Down.	Up.	Total.	Down.	Up.	Down.	Up.	Down.	Up.	Down.	Up.
1	506.4	365.2	871.6	5.85	4.08	1.42	1.3	2,960	1,500	720	475
2	643.5	384.25	1,077.75	9.5	6.2	4.1	3.3	6,100	2,380	2,630	1,270
3	255.0	134.15	389.15	12.4	6.2	5.25	2.58	3,160	830	1,330	346
4	101.85	100.7	202.55	10.0	6.42	3.13	2.74	1,018	642	318	274
5	189.1	258.0	447.1	8.75	4.3	2.3	1.25	1,650	1,100	435	320
6	270.4	.....	270.4	7.15	.....	1.25	.....	1,950	.....	364	.....

Towboat "Advance."—Tonnage, speed, and ton-miles per trip, 1914—Continued

FUEL.

Trip No.	Barrels.	Value.	Trip No.	Barrels.	Value.
1	704.34	$629.67	4	403.44	$319.87
2	341.00	315.61	5	871.60	788.88
3	390.23	338.41	6	436.38	384.48
			Total	3,147.08	2,776.92

Steamer "Chester."—Speed, tonnage, ton-miles, and fuel, season 1914.

(Apr. 15 to Aug. 25, 133 days.)

Round trip No.	Speed, miles per hour.				Tonnage.	
	Down.		Up.		Down.	Up.
	Running.	Actual.	Running.	Actual.		
1	10.4	3.6	4.1	1.5	64.8	198.4
2	9.2	3.85	4.7	3.03	162.1	165.3
3	9.4	4.8	4.6	2.1	114.1	193.0
4	11.33	5.55	4.3	4.08	115.7	178.2
5	11.2	6.1	4.05	2.82	58.7	150.7
6	10.3	5.75	4.37	3.37	160.6	188.8
7	10.3	5.6	4.0	1.9	90.0	172.35
8	7.25	3.24	4.25	2.4	122.6	120.0
9	8.25	3.22	4.0	1.4	40.2	142.0
Total	.....	.....	.....	.....	928.8	1,512.75
Average	9.8	4.64	4.26	2.5	103	163

Round trip No.	Ton-miles.				Fuel.	
	Down.		Up.		Barrels.	Value.
	Running.	Actual.	Running.	Actual.		
1	570	232	810	300	607.4	$489.05
2	1,490	625	800	520	466	381.66
3	1,070	550	685	310	538.8	389.05
4	1,030	640	765	725	460.7	332.88
5	655	358	610	425	421	317.28
6	1,650	920	825	635	398.8	270.72
7	935	500	680	320	490.0	358.82
8	950	395	510	288	478.1	370.87
9	330	129	570	200	640.1	555.04
Total	8,680	4,390	6,255	3,723	4,510.2	3,465.37
Average	965	482	700	414	501	386.00

"A. M. Scott"—Tonnage and speed record, 1913.

[Total days in service, 205.]

Trip.	Tonnage.			Miles per hour.		Ton-miles per hour.		
	Down.	Up.	Total.	Down.	Up.	Down.	Up.	Total.
1a	.....	279.5	279.5	.....	4.07	.....	1.130	1.130
1	.....	366.5	366.5	10.3	3.88	.....	1.425	1.425
Special	8.0	.....	8.0	.....	.....	.....	.....	.....
2	62.5	487.0	549.5	11.3	2.63	.705	1.280	1.985
3	51.0	618.5	669.5	10.3	4	.525	2.480	3.005
4	7.5	444.5	452.5	10.3	3.2	.775	1.420	2.195
5	711.5	488.5	1,200.0	8.7	3	6.160	1.460	7.620
6	545.0	870.75	1,415.75	7.6	1.6	4.120	1.400	5.520
7	324.0	614.75	939.75	6.4	2.4	2.080	1.470	3.550
Total	1,709.5	4,170.00	5,881.00	.....	.....	14.365	12.065	26.430

Average tonnage down, 245; average tonnage up, 520; average speed up, 3.1 miles per hour; average ton-miles per hour down, 2.040; average ton-miles per hour up, 1.540.

"Advance"—Tonnage, speed, and fuel, 1913.

Advance with barge Handy.	Tonnage.			Miles per hour.		Ton-miles per hour.			Oil fuel.
	Down.	Up.	Total.	Down.	Up.	Down.	Up.	Total.	Barrels.
Trip 1	67.3	109.3	176.6	9.5	3.75	640	410	1,050	230
Trip 2	86.5	128.6	215.1	11.5	4.13	1,000	530	1,530	185
Trip 3	41.5	123.7	165.2	10.5	4.25	435	525	960	185
Trip 4	22	99.6	101.8	10.4	3.6	23	360	383	185
Trip 5	.....	170.0	170.0	.....	4.0	.....	680	680	139
Trip 6	88.5	177.8	266.3	10.0	3.82	885	680	1,565	185
Trip 7	212.3	113.2	325.5	7.2	3.8	1,530	430	1,960	275
Trip 8	129.2	132.8	268.0	5.6	3.96	725	520	1,245	250
Total	627.5	1,065.0	1,692.5	.....	.....	5,238	4,135	9,373	1,634

Average tonnage down, 90; average tonnage up, 133; average speed up, 3.94 miles; average ton-mileage down, 6.55 per hour; average ton-mileage up, 5.15 per hour.

Steamer "Chester"—Tonnage and speed record, 1913.

[Total days in service, 165.]

Trip No.	Tonnage.			Miles per hour.		Ton-miles per hour.		
	Down.	Up.	Total.	Down.	Up.	Down.	Up.	Total.
1	157	149	306	10.7	4.47	1,680	570	2,250
2	25.5	166.8	192.3	10.5	5.03	268	835	1,103
3	33.5	151.5	185.0	11.1	4.8	372	725	1,097
4	20	166.25	186.25	10.6	3.6	222	600	822
5	29	212.25	241.25	10.8	5.03	300	1,065	1,365
6	32.75	197	229.75	11.7	5.03	382	1,020	1,402
7	168.5	139	307.5	8.5	4.15	1,430	580	2,010
8	90.5	111.6	202.1	7.0	4.42	635	492	1,127
9	135.25	126.25	261.5	8.6	4.0	1,160	505	1,665
Total	692.00	1,519.65	2,111.65	.....	.....	6,449	6,392	12,841

Average tonnage down, 77; average tonnage up, 169; average speed up, 4.5 miles; average ton-miles per hour down, 720; average ton-miles per hour up, 710.

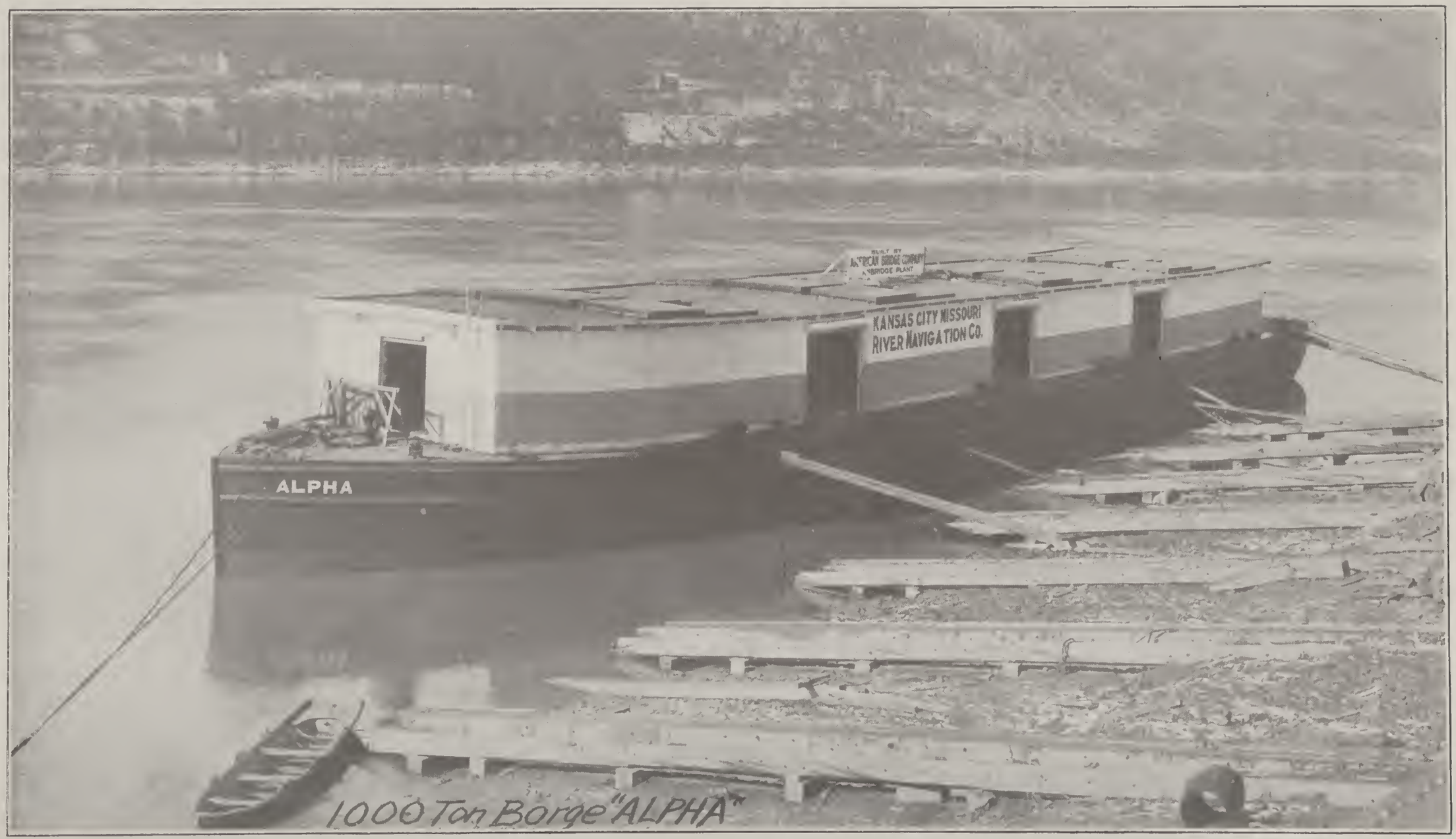
Twin Screw Steel Hull Towboat "A. M. Scott" at Kansas City, Oct. 6, 1915.

600 H.P.– Draft- 3 Ft.

Triple Expansion Condensing Engines, Water Tube Boilers, Oil Fuel.

Towboat "Advance" washing Barge "Endeavor" over crossing.

April 8, 1915
Towboat "Advance" leaving Kansas City with Barge "Alpha"
carrying 11818 sacks export flour. Barge drawing 4½ ft with 650 ton load



1000 Ton Barge "ALPHA"

600 Ton Barge "Delta"
KANSAS CITY MISSOURI RIVER

Steamer "Chester"—Trip record and fuel consumption, 1913.

Trip No.	Total days per trip.	Total hours.		Running hours.		Efficiency.		Round trip efficiency.	Fuel consumption, round trip.
		Down.	Up.	Down.	Up.	Down.	Up.		
						Per ct.	*Per ct.*	*Per ct.*	*Barrels.*
1	17	102	194	38	91	37.4	47.4	32.7	583
2	14	79.5	136	38½	81	48	60	37	557
3	12	71.5	122¼	37	85	51.5	70	43.7	505
4	15	77.75	170½	38½	112¾	50	66	42	661
5	14	92	130½	37¾	81¾	41	63.2	36.8	450
6	17	64.75	178½	35	81¼	54	46	28.4	496
7	19	99.75	214	48½	98¼	50	45.8	32	602
8	21	304	147	58½	92	15	62.6	30	550
9	36	87	684	47½	101¼	55	15	16	600

APPEAL FROM THE CONCLUSION OF LIEUT. COL. HERBERT DEAKYNE, CORPS OF ENGINEERS, ON MISSOURI RIVER PROJECT—MISSOURI RIVER, MO., MOUTH TO KANSAS CITY—BEFORE THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS, WASHINGTON, D. C.

AUGUST 17, 1915.

TO THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS,
Southern Building, Washington, D. C.

GENTLEMEN: By a notification dated August 4, 1915, signed by Lieut. Col. Herbert Deakyne, Corps of Engineers, United States Army, district officer in charge of the improvement of the Missouri River, we are advised that the district officer has filed with your board a report recommending the abandonment of the present project of improving the Missouri River from Kansas City to the mouth and the adoption of a "modified" project providing for an appropriation for the purposes of snagging only. We desire to unite as representatives of the commercial interests of the Missouri and Mississippi Valleys in a formal protest against the approval of this report and to request an oral hearing upon the same. The grounds of our protest are as follows:

First. The project for the improvement of the Missouri River from the mouth to Kansas City was adopted by Congress by the rivers and harbors act of July 25, 1912, in accordance with the report in House Document No. 1287, Sixty-first Congress, third session. The estimated cost was to be $20,000,000, with a view to completion within 10 years. This formal adoption of the project by Congress was not hastily made. It was the result of a series of regular and special examinations, surveys and reports beginning in 1905. Congress had authorized a survey and report upon the Missouri River between Kansas City and the mouth, and in pursuance thereof the then district officer, Maj. Schulz, submitted a detailed plan for such improvement which was approved by all of the channels of the War Department and which appears in House Document No. 1120, Sixtieth Congress, second session. By this report it appears that a complete and feasible engineering plan had been worked out for securing and maintaining a 6-foot channel from Kansas City to the mouth, at the estimated cost of $20,000,000. In the rivers and harbors act of June 25, 1910, an appropriation was made by Congress of $1,000,000 for the permanent improvement of the Missouri River, accompanied by a provision for a reexamination of the project from an engineering standpoint by a special board of Army engineers. This reexamination was had and the plan of improvement previously submitted by Maj. Schulz was approved in all of its general features. Congress thereupon, with full advice and a careful examination and reexamination of the engineering possibilities of the improvement, adopted the project in the rivers and harbors act of July 25, 1912. In all Congress has made six appropriations for the permanent improvement of the Missouri River since June 25, 1910, aggregating $6,250,000.

Second. Whatever doubt may have previously existed as to the feasibility from an engineering standpoint of securing and maintaining a 6-foot channel from Kansas City to the mouth has been resolved by the careful examination and favorable reports of a number of competent engineer officers of the United States, by independent examinations and reexaminations. The question of the feasibility of the project and the possibility of accomplishing it for the estimated cost is no longer in doubt. In fact, the recent adverse report of the district engineer expressly confirms this question and states without qualification that the progress so far made indicates that the engineering plan is sound and that a 6-foot channel can be secured for the amount of the original

estimate of $20,000,000. No question therefore occurs upon the cost of the project or its feasibility from an engineering standpoint.

Third. The United States has expended and contracted on the permanent improvement of the Missouri River since 1910 the sum of $6,250,000. Much of the work done under this has been in rectifying the channel preliminary to further improvement. A considerable portion of this amount has been expended in the purchase and construction of a plant for that purpose. The Government now owns a plant valued at more than $500,000, specially built and adapted for the improvement of the Missouri River. This plant and the preliminary bank improvement which has been so far made will be substantially a total loss if the project is abandoned. In addition to this there has been assembled on the Missouri River a large number of independent contractors who have equipped themselves to do standard revetment and other work necessary on the project and who are prepared to accept contracts at low prices based upon a continuance of the work by the Government. If the work be abandoned even for one season these contractors must take their force and equipment elsewhere and it would cause increased delay and expense to again secure responsible contractors for the work. The most economical way for the Government to proceed, as stated by the report of the district officer, is to make the appropriations based upon the completion of the work in 10 years. The failure to keep these appropriations up to the contemplated amount has so far increased materially the cost of the work and the abandonment of the project with an indefinite view of resuming it at some future time would be the height of extravagance and business folly.

Fourth. As the adverse report of the district officer admits the feasibility of the project, the accuracy of the estimate of cost, and the time of completion, the sole remaining question is that of the commercial value of the project. Contrast his individual opinion with that of such eminent engineers as D. W. Lockwood, colonel, Corps of Engineers, senior member of the board, and Gen. W. H. Bixby. In 1908, prior to the expenditure of any part of the $6,250,000 before referred to and prior to the creation and operation of the Kansas City Missouri River Navigation Co.'s line of boats, in House Document No. 1120, Sixtieth Congress, second session, page 59, Col. Lockwood, reporting upon the Missouri River condition, approved the reports of the Missouri River Commission made in 1902. He says:

"In regard to the commerce of this river, the following statement, contained in the report of the commission for 1902, is believed to be applicable at the present time: In its present condition it has very little commerce, for the reason that the difficulty of navigation will not justify the running of boats, and insurance can not be obtained except at exorbitant rates. No growth of commerce could be expected until the river is opened to the mouth to give it an outlet. If the amount of its existing commerce is to be used as a measure of its worthiness for improvement, it might as well, as has been facetiously proposed, be wiped off the map for interval improvements. If its capacity for improvement and the possibilities of its use as a highway of cheap transportation for a large section of country and a numerous population be considered, its worthiness takes high rank."

And in the same report he declared: "The improvement of the Missouri River under the plan proposed would, in the opinion of the board, be advisable."

Gen. W. H. Bixby, then colonel, Corps of Engineers, division engineer, western division, in House Document No. 1120, page 55, in May, 1908 declared:

"I consider that the work already done in the Missouri River has been as successful per dollar of expenditure as any similar work in Europe and has proved the possibility and practicability of further extension to 10 or 12 feet depth below Sioux City, and that the probable development of commerce to, over, and away from this river, and the probable development of land and other property values in this river basin resulting from a future 10 or 12 foot navigation, will be sufficient to handsomely repay to the United States and to all individual States affected thereby its entire cost in so few years that the actual construction work of the 12-foot project should be started immediately."

On this question it may be said that Congress was fully advised on this subject at the time it adopted the project, and it was only after a careful investigation into all the facts that the project was adopted. No condition has occurred since 1910 which could lessen the commercial value of the improvement of inland waterways. In fact, on the contrary, every change in conditions has increased the necessity for the development of this great method of transportation. Prior to 1910 the question of the commercial possibilities of the river were fully debated in the committees of Congress. The Committee on Rivers and Harbors of the House of Representatives was then presided over by Theodore Burton, of Ohio, who was skeptical on the subject of the improvement of inland waterways. It was insisted that the commercial interests along the Missouri River should show their faith in its commercial possibilities by resuming commerce upon that stream and assuming all the risks, loss, and expense of naviga-

tion in an unimproved channel. The commercial interests pointed out at that time that a river, like any other means of transportation, was no better than its weakest point and that it must be improved to a reasonable degree between two terminal points before successful use was possible. In other words, they contended that improvement must precede use, as the building of a railroad's tracks must precede the running of trains, and that as a business proposition use could not precede improvement except on an experimental basis and at a considerable risk and loss. However, under the views then expressed by some members of the Rivers and Harbors Committee, the commercial interests of Kansas City, Mo., raised by popular subscription a capital of $1,250,000 for the establishment of a boat line between Kansas City and St. Louis. This boat line was successfully established and has invested more than $500,000 of its capital in building and equipping towboats and barges specially adapted to river navigation. In doing so it has carried on experimental work at its own cost which has been of enormous benefit in view of the future development of river commerce and has developed a type of boats which can be used in such work. Of this investment of capital the greater part will be lost by the abandonment at this time of the improvement of the river. The boats have been continuously operated during the open season, notwithstanding the incomplete and adverse channel conditions, and at a profit during stages of good water.

The conditions upon which the boat line has operated upon a partially improved river have been of the most trying character, and its success under these conditions has been remarkable. It could only load its barges to a draft corresponding with the stage of the water at the shallowest crossing between Kansas City and St. Louis, but as the improvement of the river has progressed the boat line has been able to handle more freight with less risk and loss and less delay. Both risk and delay are important elements in any system of transportation, and it is to eliminate this that the improvement of the Missouri River is needed. In the early days of the river when no improvement was possible and no other means of transportation was at hand, the risk and delay which had to be met was so great as to be prohibitive under modern conditions. In face of these difficulties of navigation on a partially improved stream, the boat line has had offered to it and has carried a rapidly increasing tonnage, at times taxing its maximum capacity. Its rates have been uniformly 20 per cent less than rail rates. It has constructed modern terminals at East St. Louis and a public municipal terminal at Kansas City. Both are equipped with modern freight-handling devices. Both of these terminals have adequate rail switching connections. Progress has been made in the convenience and promptness of interchanging freight with connecting carriers, rail and water, under joint traffic arrangements. The character of the freight handled has changed materially since the establishment of the boat line. The growth has been in high-class freight, including dry goods, pianos, canned goods, sugar, copper, groceries, glassware, furniture, wire nails, implements, vehicles, automobiles, flour, sirups, alfalfa products, hardware, toys, drugs, and chemicals. During each season there has been a notable increase in the amount of feed and flour manufactured from the agricultural products of the Missouri Valley carried downstream toward the seaboards. In 1913, the year which is used as the basis for the adverse report of the district officer, the amount of feed and flour alone was only 334 tons. In 1914 the amount was 4,374 tons, and for the first six months of 1915 the amount has exceeded 10,000 tons.

The Missouri River is destined to be one of the greatest carriers of freight of the country, if not of the world. An estimate of future commerce based upon the operation of a single boat line with less than one-fourth its operating capacity developed, upon a river which is less than 25 per cent improved, is totally inadequate. The true estimate is based upon the growth of marketable products in the territory which can use any portion of the improved river as a route to the seaboard. This growth in marketable products has far exceeded the growth of rail facilities in this territory, in periods of traffic congestion.

Fifth. The report of the district officer condemns the improvement of the Missouri River on the ground that the present and reasonably prospective commerce is not sufficient to warrant the expenditure necessary for the continuance and maintenance of the improvement (his individual opinion). This policy, if adopted by your board, would mean the abandonment of all attempts to improve inland or nontide waterways. It is a sweeping condemnation of the entire policy of river improvement. It affects every river project in the United States, for on not a single river above tidewater has general commerce increased so rapidly or so satisfactorily in the last five years as it has on the Missouri River. If your board approves the report of the district officer, it means a reversal of the entire policy of Congress for the improvement of all of the natural channels of communication of the country, and in this view the commercial

interests and the Representatives in Congress interested in river improvement unite in this protest.

We offer attached hereto and made part hereof, in exhibit form, tabulation showing the tonnage moving via rail from Kansas City alone during the periods specified which would be tributary to transportation via the Missouri River and connecting inland waterways as the best evidence of the commerce possibilities of water-borne traffic upon an improved river such as the present Missouri River project contemplates. These data relate only to outbound tonnage from Kansas City. Similar information will later be presented covering movement from the other Missouri River markets of St. Joseph, Atchison, Leavenworth, Omaha, and Council Bluffs.

With the vast tonnage moving west through the gateways of Kansas City, St. Joseph, Leavenworth, Atchison, Omaha, and Council Bluffs, aggregating in the year 1908, as to the traffic originating in the territory east of the Mississippi River and north of the Ohio and Potomac Rivers, destined to and through the Missouri River cities south of Omaha and the territory south thereof, except Texas, and west to the Rocky Mountains, an annual movement of 5,000,000 tons, as testified to at page 492 of the proceedings of the hearing concerning Missouri River improvement conducted by the Rivers and Harbors Committee of the House of Representatives, February 5, 1910, and which has measurably increased in volume since, it is reasonable and safe to assume that the navigation companies with boats and barges departing regularly and daily and operating safely on an adequate channel, with deliveries between Kansas City and St. Louis of 48 hours downstream and 100 hours upstream, will secure their full share of such westbound freight traffic. With equal force the assumption applies to freight traffic originating on and west of the Missouri River moving eastbound.

Sixth. The question of inland waterway transportation in the United States has become a vital issue, since the adoption of the Missouri River project, by the completion of the Panama Canal. If Congress in its wisdom decided that the improvement of the Missouri River was necessary in 1910, it is more imperatively needed in 1915, unless it is intended by Congress to place the entire Mississippi Valley under an insurmountable commercial handicap. The ocean rates from the Atlantic seaboard to the Pacific coast since the opening of the canal have been radically reduced.

The transcontinental rates of the railroads have been reduced to only partially meet this competition. The reduced rail rates remain in various instances as much as 200 per cent of the water rates on the same commodities. The water-rate reductions have already seriously affected the present status of interior manufacturers competing with those situated upon the Atlantic seaboard, and threaten the decadence, if not ultimate destruction, of the trade of the Mississippi Valley with the Pacific coast and upon Pacific coast products. This competition extends actively at least as far inland as the Allegheny Mountains on the Atlantic seaboard and the Sierra Nevadas on the Pacific seaboard. The great interior portion of the country, from the Canadian border south, removed from the zone of canal influence, must bear either actual or relatively higher railroad rates as a direct result of the opening of the canal, which was constructed at the expense of the entire Nation. The only adequate relief from this situation is the development of the natural channels of communication between the seaboard and the interior of the Mississippi Valley comprising the great system of inland waterways. Neither rates made by the railroads nor within the power of the Interstate Commerce Commission to prescribe will suffice.

With the improvement of the inland waterways the great producing area of the Mississippi Valley from the Allegheny Mountains to the Rockies can be given the advantage of direct transportation and through water rates, thus extending the proper share of the advantage of the building of the Panama Canal. Without such through water rates the opening of the canal will be a crushing blow to the manufacturing and producing area of the entire central portion of the country and all manufacturers seeking Pacific coast and foreign markets will be compelled to remove to the Atlantic seaboard or Gulf coast territory. There can no longer be any doubt about the situation to which we refer. During the calendar year 1913, the year immediately prior to the opening of the canal, the total water tonnage of those commodities covered by the transcontinental railroads' recent Fourth Section, Application Nos. 205 et al., to the Interstate Commerce Commission, for further relief from the long and short haul clause of the act to regulate commerce, was 421,359 tons. The total rail tonnage from territory north of the Ohio and Potomac Rivers and east of Pittsburgh and Buffalo, of the same commodities, was 537,609 tons. The tonnage referred to represent those articles most susceptible in trade to the freight rate and covered about one-half of the total tonnage.

The ships already in service prior to the opening of the canal had a carrying capacity of 1,239,200 tons, so that without the addition of a single ship the vessels in service could more than take care of the entire tonnage of these commodities from that territory east of Pittsburgh and Buffalo and have additional carrying room for 267,476

tons. A great many additional ships have gone into service and uniform dates of sailing established at the time these applications were presented to the commission in October, 1914.

During September, 1914, 78,000 tons of coast-to-coast freight moved by the canal, thus forecasting an annual tonnage upon the basis of that month alone of 936,000 tons, or an increase of more than 100 per cent in the water-borne domestic tonnage of the preceding year (1913), itself only 50 per cent greater than the tonnage of the calendar year 1910.

It is a matter of record that for the years 1912 and 1913, respectively, a little less than one-twelfth of the total tonnage handled by the old Panama Railroad route across the Isthmus moved in the month of September each year.

Shortly after the unparalleled low rates for water service from Atlantic to Pacific ports were inaugurated just following the opening of the canal, the high ocean rates upon export traffic consequent upon the European war had attracted a large number of the coastwise vessels away from that trade. What further reduction may follow their return to domestic shipping via the canal can not now be forecasted, but the brief experience of the scramble for tonnage between the competing water carriers just following the canal's opening furnishes safe criteria upon which to predict that the beginning has just been made toward lower rate level in the new era in transcontinental transportation upon which this country has just entered.

The great interior section of the country, that has a tremendous supply of raw material and splendid facilities for manufacturers, will be reduced to the production and shipment of raw material only, which will rapidly strip the country of its natural wealth. This is the direct result of the policy which will follow the approval of the report of the district officer, Lieut. Col. Deakyne.

In pursuance of the request hereinbefore made for opportunity to further discuss the situation produced by the report of Col. Deakyne, we respectfully request the privilege of offering further data and facts in proof and support of our position and trust that it may please the convenience of your board to set this suggestion down for its formal hearing on a date early in October.

Respectfully submitted.

For Missouri:
W. T. Bland, Chairman.
W. R. Painter.
James E. Gatewood.
For Illinois:
H. G. Moore.
Robert W. Thompson.
For Nebraska:
John L. McCague.
John W. Gamble.
For Minnesota:
J. W. Cooper.
For Arkansas:
Carl J. Baer.
Harry H. Edwards.
For Oklahoma:
A. C. Trumbo.
Joe McCusker.
For Iowa:
W. E. Holmes.
Irving C. Norwood.
For Kansas:
E. C. Little.
W. A. Austin.

EXHIBIT A.

Statement of actual carload shipments from Kansas City via rail of commodities specified, during period May to December, 1914, inclusive, having destination in St. Louis, Mississippi River, Illinois, Wisconsin, Minneapolis, St. Paul, Lake Superior ports, Chicago, Milwaukee, Middle States, seaboard, Mississippi Valley, southeast, Atlantic and Gulf ports for export.

Month.	Wheat.	Corn.	Flour.	Meal, bran, and chop.	Fresh meat.	Packing house products, boxed loose.	Lard, tallow, grease, and oil.
May	2,516	33	202	190	1,698	435	168
June	315	104	336	267	1,599	459	161
July	4,324	151	384	352	1,824	487	124
August	6,087	107	740	476	2,121	423	110
September	7,163	70	956	592	2,624	422	104
October	5,296	102	1,036	544	3,028	557	147
November	6,289	150	1,145	698	2,607	727	177
December	4,047	334	879	422	2,105	645	168
Total	36,037	1,051	5,778	3,501	17,606	4,115	1,159

Statement of actual carload shipments from Kansas City via rail of commodities specified, during period May to December, 1914, inclusive, having destination in St. Louis, Mississippi River, Illinois, Wisconsin, Minneapolis, St. Paul, Lake Superior ports, Chicago, Milwaukee, Middle States, seaboard, Mississippi Valley, southeast, Atlantic and Gulf ports for export—Continued.

Month.	Fertilizer, bones, horns, and hoofs.	Hides and hair.	Seeds and castor beans.	Hay and broom corn.	Lead, spelter, bullion, and acid.	Miscellaneous.	Total.
May	20	118	28	131	64	365	6,068
June	19	89	15	201	86	388	4,019
July	31	63	4	377	57	418	8,576
August	50	100	15	424	43	447	11,103
September	29	93	5	376	50	315	12,799
October	42	141	8	247	46	360	11,554
November	52	167	20	237	71	317	12,657
December	39	175	34	258	74	297	9,477
Total	282	946	129	2,251	491	2,907	76,253

The above totals reduced to tonnage predicated upon average carload weights as indicated produce following (authority for average weights, reports of I. C. C. in I. & S. Docket 555, 35 I. C. C. 497–681):

Commodity.	Average carload weight (tons).	Tons.	Commodity.	Average carload weight (tons).	Tons.
Wheat	36	1,297,332	Hides and hair	17	16,082
Corn	33.33	35,019	Seeds, etc	15	1,935
Flour	20	115,560	Hay, etc	11	24,761
Meal, etc	19	66,519	Lead, etc	26	12,766
Fresh meat	12	211,272	Miscellaneous	26	75,582
Packing house products, etc	17	69,995			
Lard, etc	17	19,702	Total		1,951,329
Fertilizer, etc	17	4,794			

NOTE.—This list includes only selected commodities confined to tonnage moving from Kansas City proper. There is a vast tonnage from other Missouri River points, St. Joseph, Atchison, Leavenworth, Omaha, South Omaha, Council Bluffs, and interior territory west of the Missouri River, in the same line to transit and to same destination territory of like commodities, which would be tributary to Missouri River transportation.

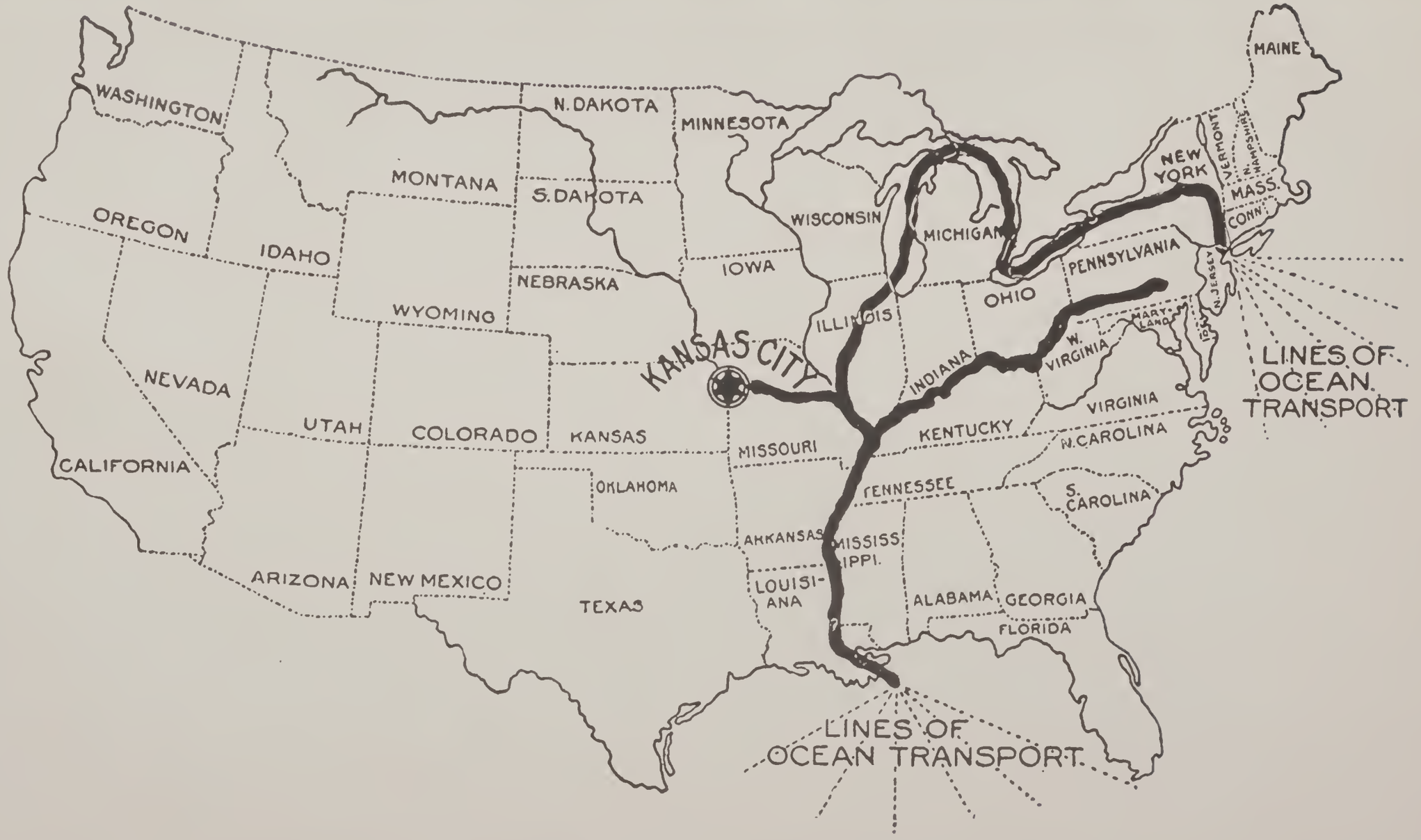
Missouri River.—Before the Board of Engineers for Rivers and Harbors of United States.—Improvement of Missouri River.—Statement and brief for the commercial interests of Missouri River Valley in opposition to report of Lieut. Col. Herbert Deakyne.—Hearing, Kansas City, October 19, 1915.—Prepared under the direction of the Commercial Club of Kansas City by Hon. Wm. P. Borland, Representative in Congress, Fifth District of Missouri, assisted by the following experts: E. M. Clendening, general secretary, the Commercial Club; R. D. Sangster, transportation commissioner, the Commercial Club; Geo. H. Forsee, industrial commissioner, the Commercial Club; W. R. Rowe, assistant to the industrial commissioner, the Commercial Club; A. W. Mackie, secretary Kansas City-Missouri River Navigation Co.; Jerome Thralls, secretary-cashier Federal Reserve Bank at Kansas City, Mo.

IMPROVEMENT OF MISSOURI RIVER—STATEMENT AND BRIEF FOR THE COMMERCIAL INTERESTS OF MISSOURI RIVER VALLEY IN OPPOSITION TO REPORT OF LIEUT. COL. HERBERT DEAKYNE.

(Before the Board of Engineers for Rivers and Harbors of United States.)

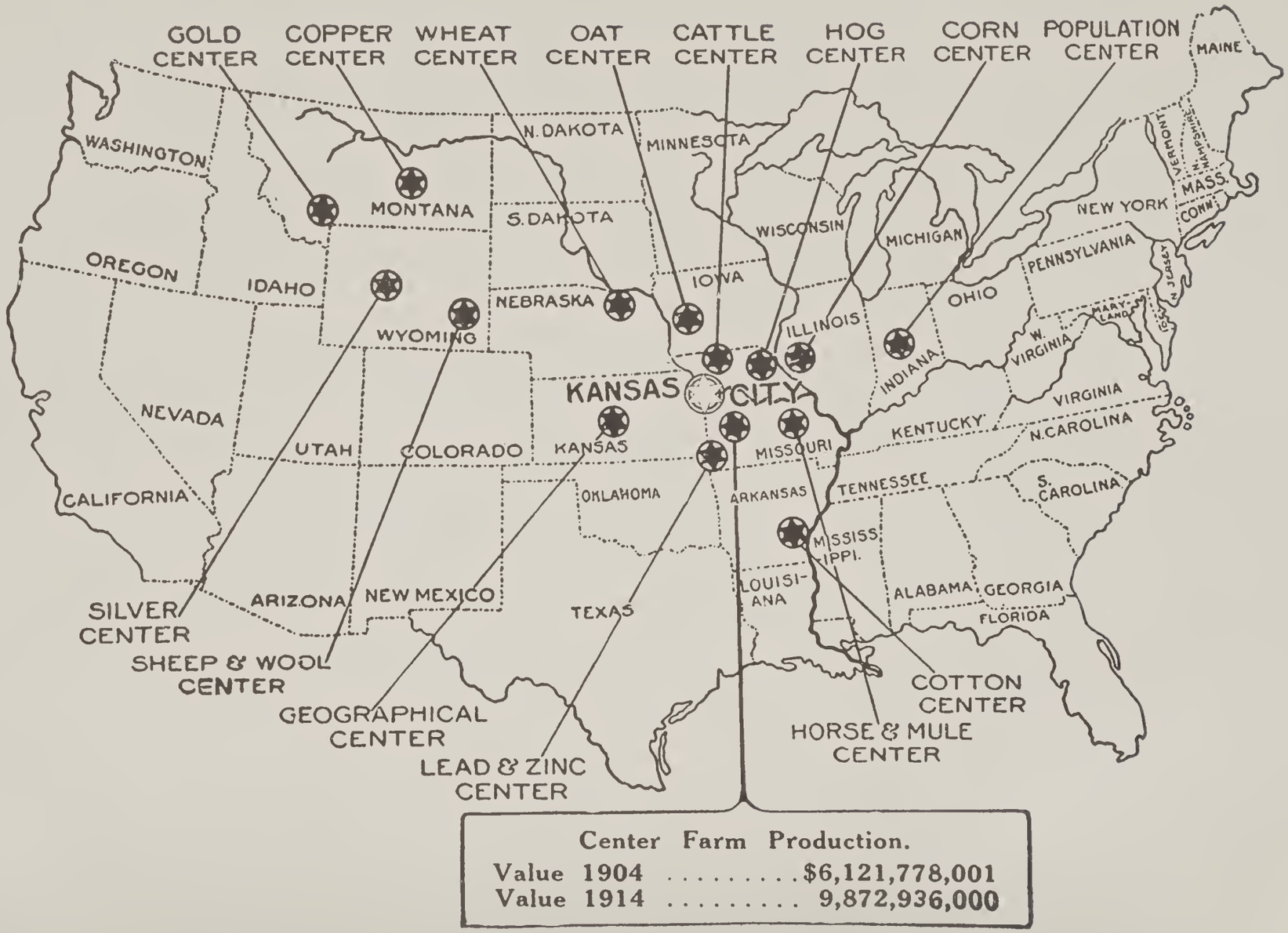
RECENT HISTORY OF MOVEMENT TO PERMANENTLY IMPROVE MISSOURI RIVER.

In order to understand the present condition of traffic on the Missouri River it will be well to take a brief glance at the recent history of the movement to restore river navigation. It will appear from this that in the last few years remarkable progress has been made which, so far from indicating a failure of river navigation from a commercial standpoint, is, on the contrary, the best guarantee of ultimate success, and the



MAP SHOWING INLAND WATERWAYS, KANSAS CITY TO THE SEA.

This map shows the advantage of connecting water lines, each one of which adds to the commercial value of the others. For instance, the route by the Chicago Drainage Canal and the Illinois River, which is now coming into use, will make a through water route from the Atlantic seaboard to Kansas City.



MAP SHOWING CENTERS OF PRODUCTION OF LEADING COMMODITIES OF UNITED STATES.

Showing all of them in Missouri Valley, and most of them directly tributary to Missouri River from Kansas City to mouth. All these commodities move eastward in seeking a market.

strongest argument in favor of the commercial importance of the river to this entire territory.

The Missouri River Commission was abolished in 1902. This commission had done some permanent work on a stretch of the river between Murray Bend and Gasconade, which had demonstrated the soundness of its engineering plans for securing a permanent channel in the Missouri River, but much of its work, and the greater part of its appropriations, were expended in isolated localities, under special provisions in the appropriation bills of Congress. The plan of expending money in isolated spots, without regard to a general engineering plan, did not result in any permanent improvement of the stream, and was probably contrary to the judgment of the engineers of the Missouri River Commission; but it was required in express terms by the acts of Congress making the appropriations. Much of this class of work was wholly lost in a few years, by changes in the banks of the stream. This accounts for the comparatively large expenditure of money under the commission, very little of which should be charged to the account of the permanent improvement of the river, but most of which should be charged to a mistaken policy of Congress.

By the river and harbor act of March 2, 1907, authority was given for a preliminary examination and survey of the Missouri River, from its mouth to Kansas City, and from Kansas City to Sioux City, Iowa. This was the beginning of a different policy, contemplating the improvement of a sufficient reach of the river at one time, and in a permanent manner, under a general engineering plan, to secure a general restoration of commerce upon that reach.

At this time, Capt. Edward H. Schulz was district officer at Kansas City, and Col. James B. Quinn was in charge at Sioux City.

On June 4, 1907, Col. Quinn submitted to the Chief of Engineers his report, and on April 30, 1908, Capt. Edward H. Schulz submitted his report. These reports were referred in the regular way to the Board of Engineers for Rivers and Harbors, and on June 10, 1907, that board, by Col. D. W. Lockwood, its senior member, submitted its report, recommending the survey.

The report of Capt. Schulz was a very thorough and exhaustive statement of the feasibility, from an engineering standpoint, of improving the Missouri River from the mouth to Kansas City, and contains a full discussion of the commercial possibilities of such improvement, with statistics of crop production, population, manufacturing interests, and existing railroad facilities of that territory. All of this information was based upon statistics of the year 1907.

A tremendous growth in all of these lines has occurred in the years intervening between 1907 and 1915, as will appear from tables inserted in this brief.

Capt. Schulz recommended in the strongest terms the permanent and systematic improvement of the river, and pointed out the growing necessity for its use, as indicated by the commercial dvelopment of the Missouri Valley.

This recommendation was concurred in by Col. W. H. Bixby, then division engineer western division, afterwards Chief of Engineers.

Report of Col. W. H. Bixby, Division Engineer, Western Division, May 19, 1908.

[H. Doc. No. 1120, p. 55, 60th Cong., 2d sess.]

"I consider that the work already done on the Missouri River has been as successful per dollar of expenditure as any similar work in Europe, and has proved the possibility and practicability of further extension to 10 or 12 feet depth below Sioux City, and that the probable development of commerce to, over, and away from this river and the probable development of land and other property values in this river basin resulting from a future 10 to 12 foot navigation will be sufficient to handsomely repay to the United States and to all individual States affected thereby its entire cost in so few years that the actual construction work of the 12-foot project should be started immediately.

This statement is made in transmitting the report of Capt. Schulz to the Chief of Engineers. The report was also concurred in by the Board of Engineers for Rivers and Harbors.

[Extract from the report of Col. D. W. Lockwood, senior member of the Board of Engineers for Rivers and Harbors upon the report of Capt. Schulz, H. Doc No. 1120, p. 59, 60th Cong., 2d sess.]

"In regard to the commerce of this river, the following statement contained in the report of the commission for 1902 is believed to be applicable at the present time:

" 'In its present condition it has very little commerce, for the reason that the difficulty of navigation will not justify the running of boats, and insurance can not

be obtained except at exorbitant rates. No growth of commerce could be expected until the river is opened to the mouth to give it an outlet. If the amount of its existing commerce is to be used as a measure of its worthiness for improvement, it might as well, as has been facetiously proposed, be wiped off the map of internal improvements. If its capacity for improvement and the possibilities of its use as a highway of cheap transportation for a large section of country and a numerous population be considered, its worthiness takes high rank.' "

The recommendation of the Board of Engineers for Rivers and Harbors was concurred in by Gen. W. L. Marshall, then Chief of Engineers, and was submitted to Congress by Hon. Luke E. Wright, Secretary of War. The survey had been ordered by Gen. A. Mackenzie, Chief of Engineers, who preceded Gen. Marshall.

When House Document No. 1120 reached the Committee on Rivers and Harbors of the House of Representatives, that body was presided over by Hon. Theodore Burton, of Ohio. The commercial interests of the Missouri Valley appealed to the Sixtieth Congress for the adoption of the Missouri River project, but they were met by the statement that there was no general commerce on the Missouri River which would justify the improvement. The reason for the lack of active commerce on the Missouri River had been fully pointed out in Capt. Schulz's report. It had been shown that the river traffic had been destroyed during the years when railroads were built in large numbers into the western country, far in advance of the commercial needs of the country. These railroads, for more than 20 years, had engaged in a fierce competition for business during a period when the traffic available was not sufficient to support all of the lines. The result was a general system of secret rebates and rate cutting which crippled the railroads and exhausted much of their capital, and made anything like the maintenance of river traffic impossible. This condition had changed very rapidly with the strict enforcement of the Interstate Commerce Law and the abolishment of secret rebates and rate cutting, and also with the tremendous growth of traffic in the Missouri Valley. The railroads had reached a point where rates were more stable and where the growing traffic was taxing the capacity of all of the roads.

During the period, however, of railroad competition, the river had fallen into complete disuse, commerce on it had practically ceased, and could not be restored, except upon an improved channel extending over a sufficient reach of the river, as, for instance, from Kansas City to St. Louis, as would make a haul of sufficient length to justify the loading and unloading of boats.

In their request upon Congress to provide a permanent channel on the Missouri River for the restoration of commerce, the commercial interests of the West took the position that the improvement of the river must precede the restoration of commerce, and it was only to a very limited extent that commerce could be restored upon an unimproved river. An attempt to do so would be experimental, and be carried on under many disadvantages, which would prevent its being a profitable enterprise. They were assured, however, that if commerce was restored upon the Missouri River upon a basis which promised success, Congress would adopt the project, and complete it by sufficient appropriations within a reasonable time. In other words, they were asked to show their own faith in the value of the Missouri River by risking their own capital in the development of water traffic. In accordance with this understanding with the Committee on Rivers and Harbors, the commercial interests of the Missouri Valley, led by the business men of Kansas City, organized a boat line, which was incorporated September 7, 1909, under the laws of the State of Missouri. The form of the incorporation was such as to secure and retain the control of the line in the hands of the merchants and shippers of Kansas City. Preferred stock in this boat line was subscribed by 4,220 Kansas City firms and individuals, to the total amount of $1,220,000. The subscription books were closed March 31, 1910, and the capital stock of the company was increased to $1,202,000. More than a million dollars of this amount has been collected in cash. In the Sixty-first Congress the chairman of the Rivers and Harbors Committee was Hon. D. S. Alexander of New York. Chairman Alexander took a deep interest in the Missouri River project and made a personal investigation of it. He came to Kansas City in September, 1909, and made a trip down the river from Kansas City to the mouth, as a result of which he became thoroughly convinced not only of the engineering possibilities of the river but of its tremendous commercial importance.

Statement of Hon. D. S. Alexander, chairman of House Committee on Rivers and Harbors.

H. Doc. No. 1287, p. 21, 61st Cong., 3d sess.]

"Your committee, therefore, are of the opinion that, measured by its capacity for improvement, and the possibility of its use as a highway for an increasing commerce, and considering the advantages and accommodation it would prove to a rapidly growing population, the systematic improvement of this river, in the manner proposed, is most worthy of favorable consideration."

On June 25, 1910, in the river and harbor bill, prepared by Chairman Alexander, the first appropriation was made for the permanent improvement of the Missouri River. The amount was $1,000,000. When the bill reached the Senate a proviso was inserted by Mr. Burton, of Ohio, who had then become Senator, in the following language:

"*Provided*, That the Secretary of War shall appoint a board of three officers, to further consider and report upon the most economical and desirable plan of securing such channel, in which report consideration will be given to the subject of cooperation on the part of local interests in the work of said improvement: *Provided further*, That the report hereby authorized shall be submitted to Congress on or before the opening of its next regular session."

The purpose of this proviso was to secure a further special examination of the Missouri River project by three Army engineers other than those who had already reported upon it. The report of Capt. Schulz, even though approved in all of its substantial features by all of the regular channels of the War Department, was to be reexamined by a special board to make sure that Congress was not making a mistake in adopting the project. This was a rather unusual proceeding, but probably justified by the magnitude and importance of the undertaking, and indicated that it was the desire of Congress to act only after the fullest investigation and the most complete information, and then to adopt the project, if at all, with the deliberate and serious intention of its successful completion.

The board of engineers thus appointed consisted of Col. F. V. Abbot, Col. C. McD. Townsend, and Maj. Charles Keller. This board came to Kansas City on November 14, 1910, and held public hearings after having made a personal examination from an engineering standpoint of the river and, presumably, a careful analysis of Capt. Schulz's plan of improvement. The report of the board was submitted November 29, 1910, and is found in House Document No. 1287, Sixty-first Congress, third session. It is a complete discussion of the possibilities of the improvement of the Missouri River, with a comparison of the plans of German and French engineers in the improvement of European rivers. It discounts the possibility of local cooperation, for the reason that such cooperation would probably result in isolated and piecemeal improvement, which would destroy the value of the engineering plan as a whole. It approves, in every important particular, the plan of Capt. Schulz and emphasizes the absolute necessity of continuous and systematic work.

The project recommended is for the improvement of the river from Kansas City to the mouth, at a total cost of $20,000,000, to be completed in 10 years, with a further allowance of $500,000 a year for maintenance and $60,000 a year for snagging. This report was submitted to Gen. W. H. Bixby, then Chief of Engineers of the United States Army, who had been for many years personally familiar with the Missouri River and who had at one time been in charge of the work upon it under the Missouri River Commission. Gen. Bixby strongly recommended the adoption of the report in the following language:

"I concur with the special board and the Board of Engineers for Rivers and Harbors in the opinion that the plan proposed, subject to modification as work progresses, is the most economical and desirable one for securing a permanent 6-foot channel in the Missouri River from Kansas City to the mouth, and I recommend its adoption at the estimated cost of $20,000,000, plus the cost of maintenance, ultimately reaching $500,000 annually, with an additional cost for snagging, not exceeding $60,000 annually. I further recommend that the appropriations be in amounts not less less than $2,000,000 a year for original work, $60,000 annually for snagging, and such amounts, increasing to $500,000 annually, as the progress of the work requires for proper maintenance. I concur with the board that the levee construction should be left to the riparian owner, and that, as a general rule, other cooperation will be impracticable; but I consider that along city fronts, or at other special localities where large interests are involved, cooperation in the way of bank protection may properly be required."

The report of the special board had been before the Board of Engineers for Rivers and Harbors and had been approved by that board on January 4, 1910, by Col. Wm. T. Rossell, senior member of the board.

This report reached Congress too late to be incorporated in the regular river and harbor bill of that session, but on February 27, 1911, an authorization for $600,000 to continue the work was made by Congress.

The project for the improvement of the Missouri River, after this ample foundation had been laid, was finally adopted by Congress in the river and harbor act of July 25, 1912, in the following language:

"Improving Missouri River, with a view to securing a permanent six-foot channel between Kansas City and the mouth of the river, in accordance with report submitted in House Document numbered twelve hundred and eighty-seven, Sixty-first Congress, third session, and with a view to the completion of such improvement within a period of ten years, $800,000."

The reason why only $800,000 was allotted that year was due to the fact that more than half of the season for construction work had passed before the bill became a law, and it was assumed that the full amount would be supplied in the following session of Congress. This proved to be the case, and the river and harbor act of March 4, 1913, contained an appropriation of $2,000,000 without any qualifications or provisos.

This brings the history of the congressional legislation and appropriations down to the point of the beginning of the season of 1913. It is upon the season of 1913 that Col. Deakyne bases his estimate of commerce on the Missouri River, and it is important to bear in mind the opportunities for improvement and the extent to which they had progressed when the season of 1913 opened in order to understand the value of the comparison contained in Col. Deakyne's report.

Meanwhile, the boat line had been extremely busy, and had entered upon its task in the most careful and conservative way. The organizers realized the necessity for having sufficient capital to insure the permanency of their efforts, recognizing that it would be necessary to operate under adverse conditions, pending improvement of the channel, and also recognizing the necessity for experimentation to secure the proper types of boats and barges for the Missouri River, and further, that it would be costly to revive navigation upon a stream which had, for so many years remained in disuse. There were many problems to be solved, in order to successfully restore navigation. The disuse of the river had resulted in the scattering of pilots, river men, and dock laborers into other lines of business. The landings and terminals which were used in the early days of navigation had been appropriated in many cases by railroads. The boats which had formerly been in use, known as the "Old Texas-deck" steamers, were utterly unsuited to modern conditions. These boats carried all of their load on deck, and must be loaded and unloaded by hand, which necessitated the presence of a shifting class of dock hands, at every unloading point. Under modern conditions this method of transacting business was clearly impossible, and the old boats were of no value whatever, as their operation was more expensive than profitable.

In a similar manner, there had been no correlation or connection between the railroads and the river, and this must be established in order that shippers from interior points could transfer their cargoes to the river or vice versa. It was necessary not only to devise a system of boats or barges which could be operated upon the river, but these barges must be of such a character that their loads could be readily transferred to and from railroad cars, switching facilities and connections must be established, fireproof warehouses must be built to protect the goods of shippers at landing points, and wharves must be constructed with modern unloading machinery, to do away with the excessive cost of hand labor, as well as to provide against the impossibility of securing an adequate supply of such labor.

The solution of these problems was vital to the restoration of inland commerce on all the rivers of the United States, but the work of pioneering along this line fell to the boat line company organized at Kansas City, because it was pressing forward to restore commerce on the Missouri River in a modern, permanent, and profitable way. It is manifest that if such a boat line had not been organized all the improvement of the Missouri River, or any other stream, by the Federal Government would not have resulted in the restoration of commerce, because the Federal Government was not engaged in solving the incidental problems which arose from the change in modern conditions. The work of solving these problems successfully was therefore undertaken by the boat line company.

Immediately upon the completion of the organization, the navigation company employed an engineer and began systematic research and study of floating equipment and operating conditions on inland waters, with a view to securing the type of equipment best suited to the Missouri River. One steamer (the *Chester*), a Texas-deck boat

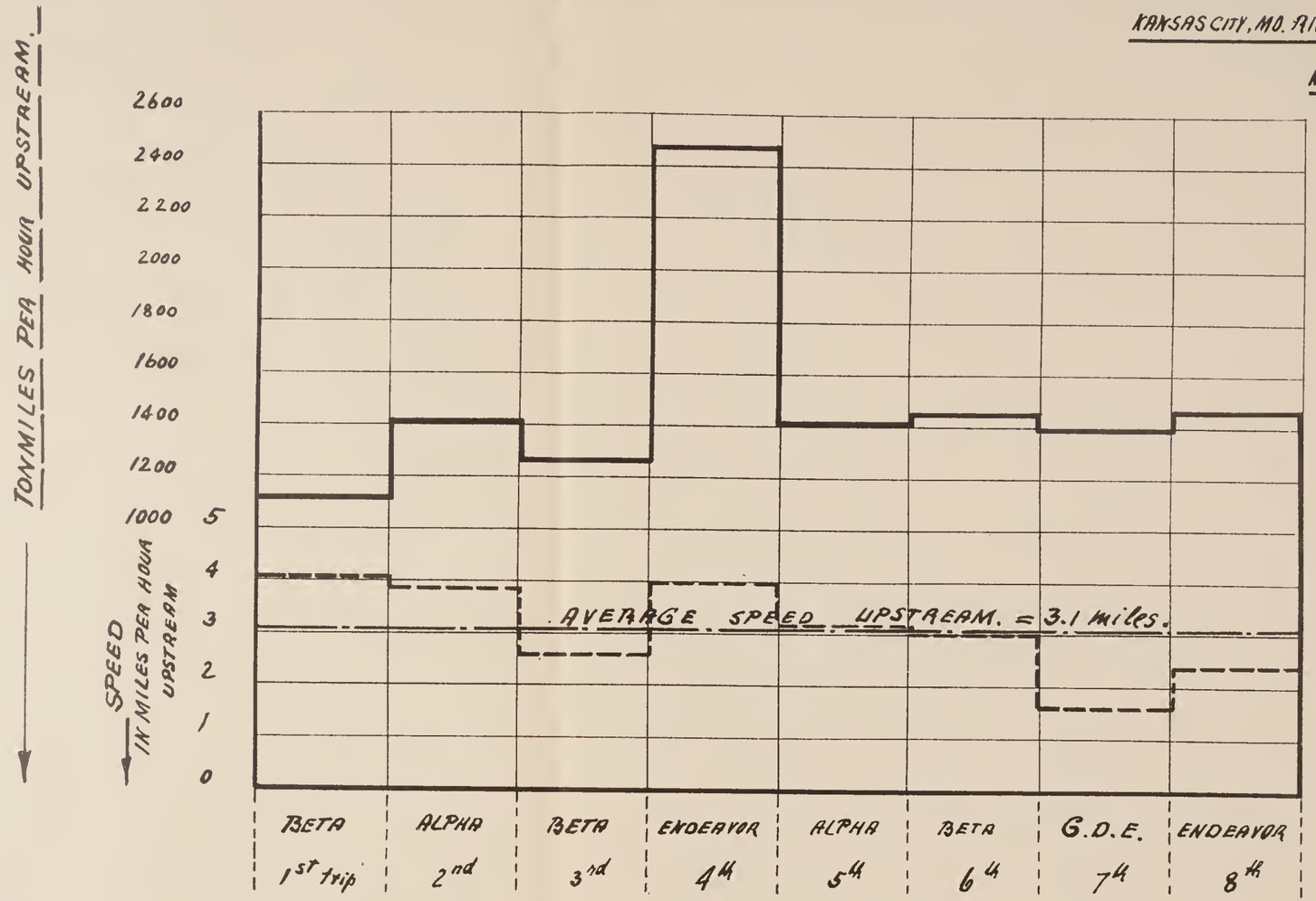
A. M. SCOTT WITH TOW.

MILES/HOUR AND TONMILES/HOUR UPSTREAM.

1913.

KANSAS CITY, MO. RIVER NAV. CO.

KANSAS CITY MO.



KANSAS CITY MISSOURI RIVER NAV. CO.
WALTER S. DICKEY, Pres.

COMPILED BY M. von Taglenbeck

THE NORRIS PETERS CO., WASHINGTON, D. C

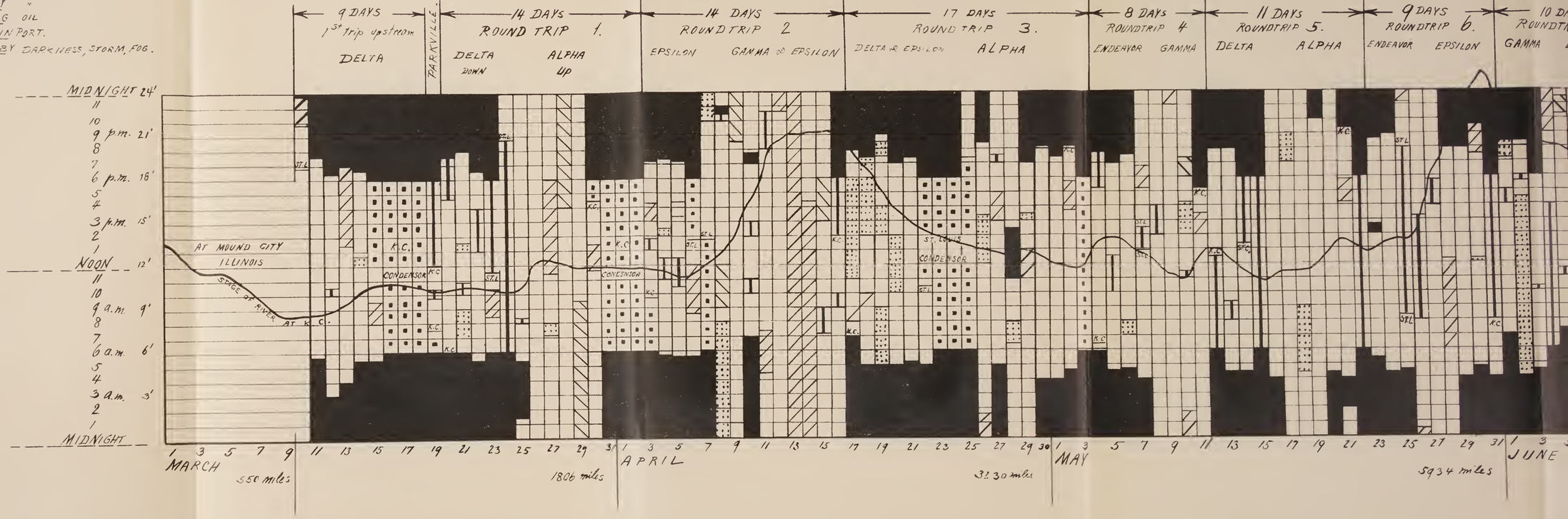
House Doc. No. 463; 64th Cong., 1st Sess.

STEAMER "A. M. SCOTT."

OPERATING DIAGRAM.

MARCH 10th to JUNE 30th

ACTUAL RUNNING HOURS
HOURS LOADING
" " NAVIGATION TROUBLE
" " MACHINERY "
" " BUNKERING OIL
" " REPAIR IN PORT.
" " DELAYED BY DARKNESS, STORM, FOG.



STEAMER "A. M. SCOTT".

OPERATING DIAGRAM.

MARCH 10th to JUNE 30th

KANSAS CITY MISSOURI RIVER NAV CO.
WALTER S. DICKEY Pres.

1915.
1.

DAYS
ip upstream
ELTA

PARKVILLE.

14 DAYS ROUND TRIP 1.
DELTA DOWN — ALPHA Up

14 DAYS ROUNDTRIP 2
EPSILON — GAMMA & EPSILON

17 DAYS ROUND TRIP 3.
DELTA & EPSILON — ALPHA

8 DAYS ROUNDTRIP 4
ENDEAVOR — GAMMA

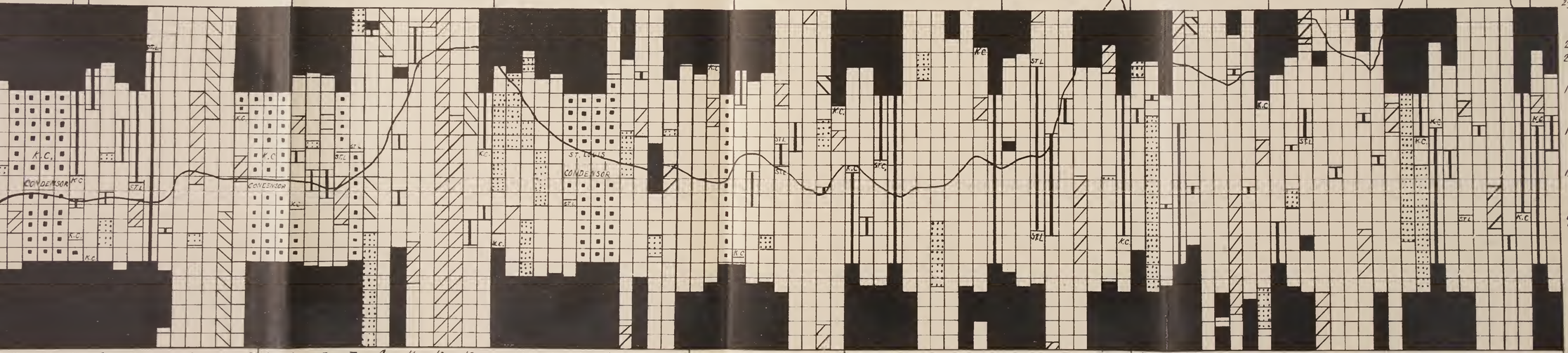
11 DAYS ROUNDTRIP 5.
DELTA — ALPHA

9 DAYS ROUNDTRIP 6.
ENDEAVOR — EPSILON

10 DAYS ROUNDTRIP 7.
GAMMA — ENDEAVOR

11 DAYS ROUNDTRIP 8
ALPHA — BETA

7 DAYS ROUNDTRIP 9.
DELTA — EPSILON
GAMMA DOWN



24' MIDNIGHT
21' 9 p.m.
18' 6 p.m.
15' 3 p.m.
12' NOON
9' 9 a.m.
6' 6 a.m.
4' 3 a.m.
2'
0' MIDNIGHT

15 17 19 21 23 25 27 29 31 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 30 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 30

APRIL — 1806 miles
MAY — 3230 miles
JUNE — 5934 miles
8674 miles

Compiled by M. von Tagenbardt
NAVAL ARCHITECT.

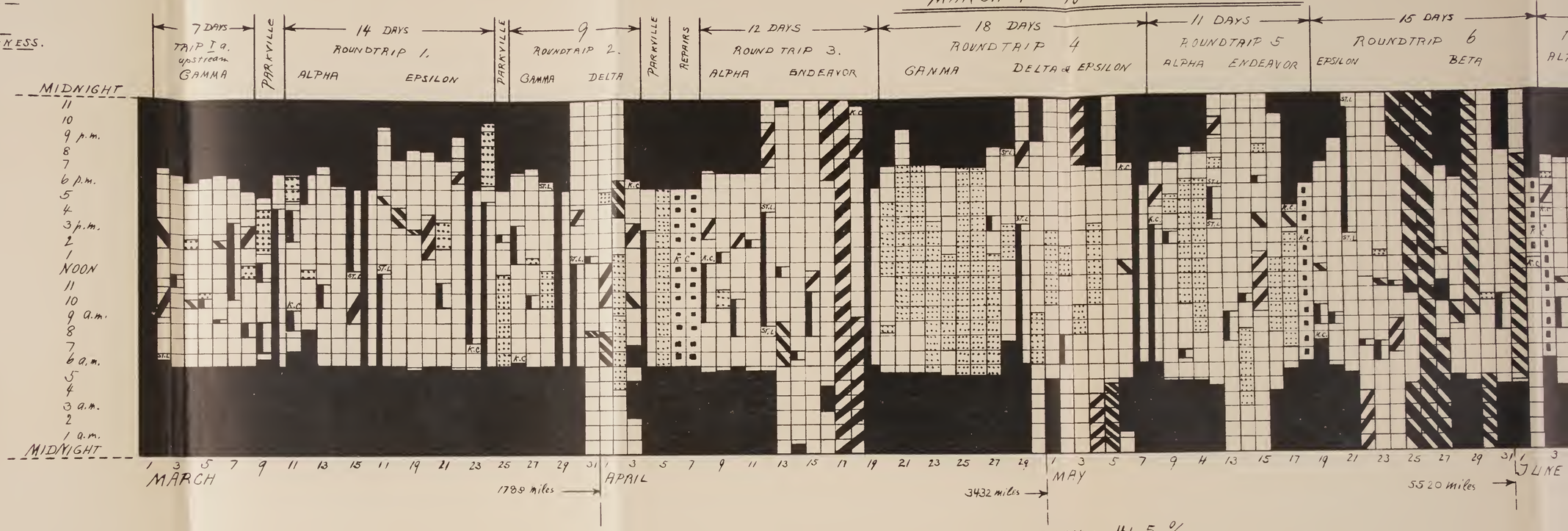
House Doc. No. 463; 64th Cong., 1st Sess.

TOWBOAT "ADVANCE".

OPERATING DIAGRAM.

MARCH 1st to JUNE 30th.

RUNNING HOURS
LOADING " "
NAVIGATION TROUBLE
MACHINERY " "
BUNKERING OIL.
REPAIR IN PORT
RAIN, STORM, DARKNESS.



EFFICIENCY: 41.5 %.

TOWBOAT "ADVANCE".

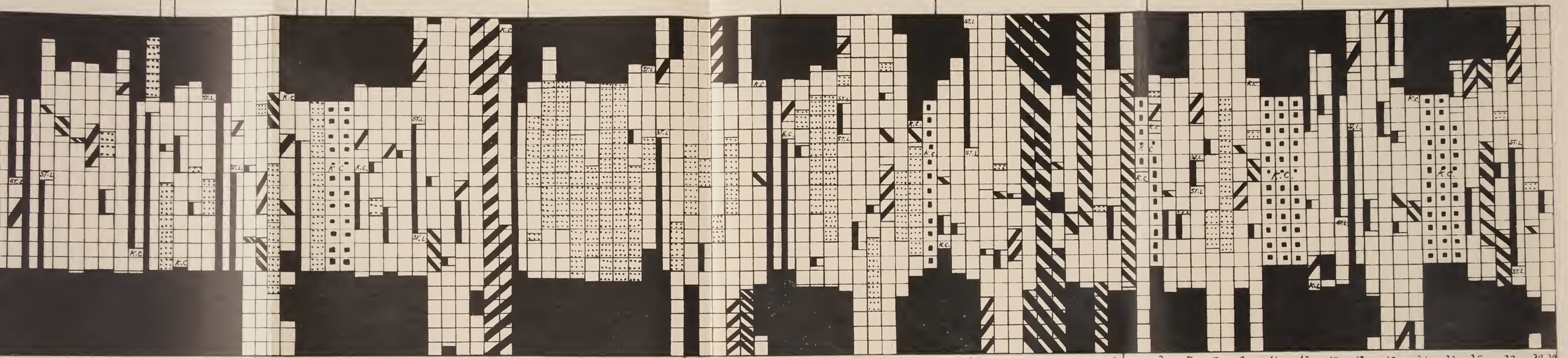
OPERATING DIAGRAM.

MARCH 1st to JUNE 30th.

KANSAS CITY MISSOURI RIVER & NAV CO
WALTER S. DICKEY. PRES.

1915
1.

14 DAYS — ROUNDTRIP 1. — EPSILON | PARKVILLE | 9 — ROUNDTRIP 2. — GAMMA DELTA | PARKVILLE | REPAIRS | 12 DAYS — ROUND TRIP 3. — ALPHA ENDEAVOR | 18 DAYS — ROUNDTRIP 4 — GAMMA DELTA & EPSILON | 11 DAYS — ROUNDTRIP 5 — ALPHA ENDEAVOR | 15 DAYS — ROUNDTRIP 6 — EPSILON BETA | 11 DAYS — ROUNDTRIP 7 — ALPHA DELTA | 10 DAYS — ROUNDTRIP 8. — EPSILON GAMMA | 15 DAYS — ROUNDTRIP 9. — BETA ALPHA



MIDNIGHT
11
10
9 p. m.
8
7
6 p. m.
5
4
3 p. m.
2
1
NOON.
11
10
9 a. m.
8
7
6 a. m.
5
4
3 a. m.
2
1
MIDNIGHT.

15 11 19 21 23 25 27 29 31 | 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 | 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 30

APRIL — 1789 miles → | MAY — 3432 miles → | JUNE — 5520 miles → | 7796 miles →

EFFICIENCY: 41.5 %.

Compiled by
Wm. Von Tegenkarde.
NAVAL ARCHITECT.

TOWBOAT A.M. SCOTT.

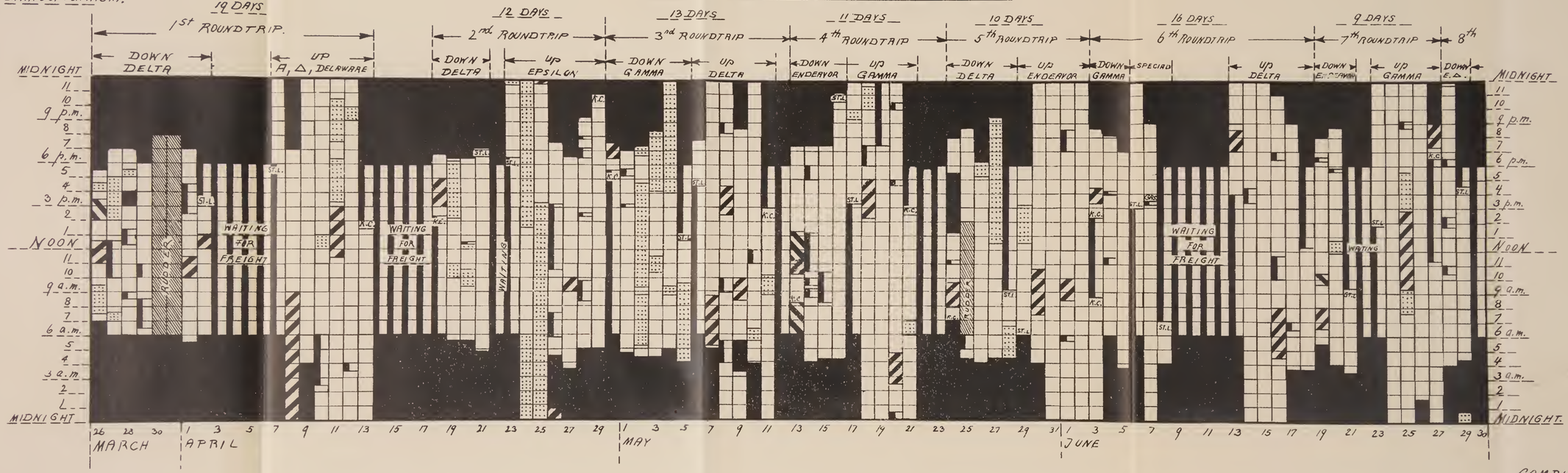
OPERATING DIAGRAM.

MARCH 26th - JUNE 30th.

KANSAS CITY MISSOURI RIVER NAVIGATION CO.

KANSAS CITY MISSOURI RIVER NAV. CO.
WALTER S. DICKEY, PRES.

ACTUAL RUNNING HOURS.
LOADING HOURS.
HOURS MACHINERY DELAY
" " RUDDER "
" " NAVIGATION "
" " BUNKERING OIL.
" " LAYING UP FOR NIGHT.



COMPILED BY: M. Von Tagenhardt
NAVAL ARCHITECT.

ETERS CO., WASHINGTON, D. C.

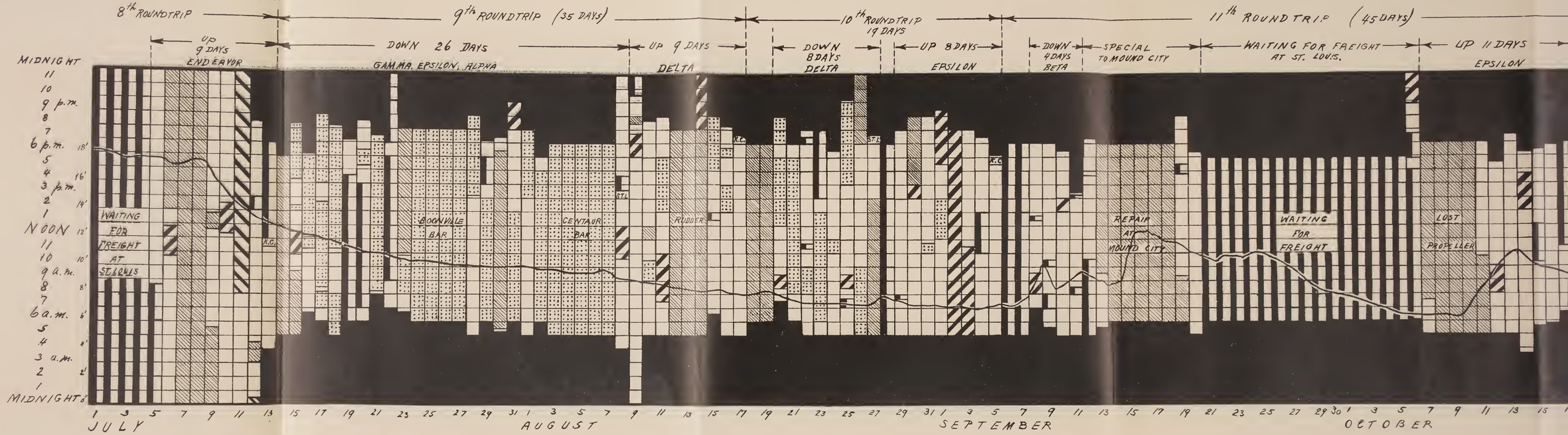
House Doc. No. 463 ; 64th Cong., 1st Se

HOURS ACTUAL RUNNING.
" " LOADING OR WAITING FOR FREIGHT.
" " DELAYED THROUGH NAVIGATION.
" " " " " " PROPELLERS, RUDDERS AND BERRINGS.
" " " " " " MACHINERY AND BOILER TROUBLE.
" " BUNKERING FUEL OIL.
" " LAID UP FOR NIGHT, FOG OR STORM

TOWBOAT A. M. SCOTT.

OPERATING DIAGRAM.

JULY 1st to DECEMBER 11th.



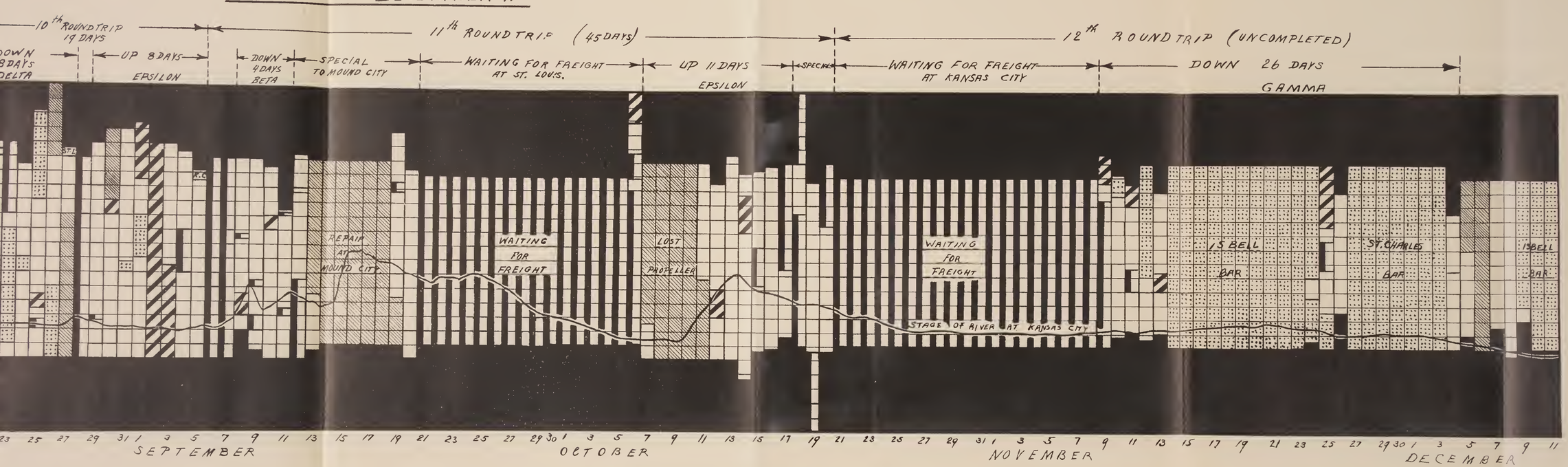
TOWBOAT A. M. SCOTT.

OPERATING DIAGRAM.

JULY 1st to DECEMBER 11th.

1914.

KANSAS CITY MISSOURI RIVER NAV. CO.
WALTER S. DICKEY, Pres.


10th ROUND TRIP 19 DAYS
11th ROUND TRIP (45 DAYS)
12th ROUND TRIP (UNCOMPLETED)
DOWN 8 DAYS DELTA
UP 8 DAYS EPSILON
DOWN 4 DAYS BETA
SPECIAL TO MOUND CITY
WAITING FOR FREIGHT AT ST. LOUIS.
UP 11 DAYS EPSILON
SPECIAL
WAITING FOR FREIGHT AT KANSAS CITY
DOWN 26 DAYS GAMMA
REPAIR AT MOUND CITY
WAITING FOR FREIGHT
LOST PROPELLER
WAITING FOR FREIGHT
STAGE OF RIVER AT KANSAS CITY
15 BELL BAR
ST. CHARLES BAR
15 BELL BAR
MIDNIGHT 11 10 9 p.m. 8 7 6 p.m. 5 4 3 p.m. 2 1 NOON 11 10 9 a.m. 8 7 6 a.m. 5 4 3 a.m. 2 1 MIDNIGHT
23 25 27 29 31 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 30 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 30 1 3 5 7 9 11
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER

COMPILED BY: Wm Tagenhardt
NAVAL ARCHITECT

House Doc. No. 463 ; 64th Cong., 1st Sess.

TOWBOAT "ADVANCE".

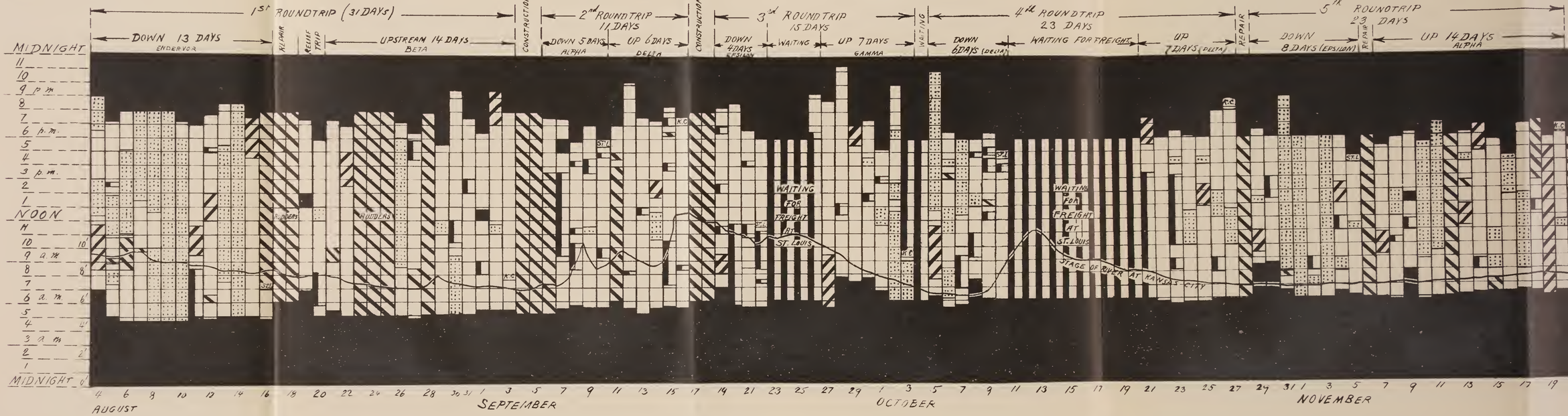
OPERATING DIAGRAM.

IN SERVICE 131 DAYS.

1914.

KANSAS CITY MISSO
WALTE

NOTAL RUNNING HOURS
HOURS LOADING, UNLOADING
HOURS DELAY NAVIGATION
HOURS " " MACHINERY
HOURS " " FOR BUNKERING OIL
HOURS " " FOG, STORM, NIGHT



TOWBOAT "ADVANCE".

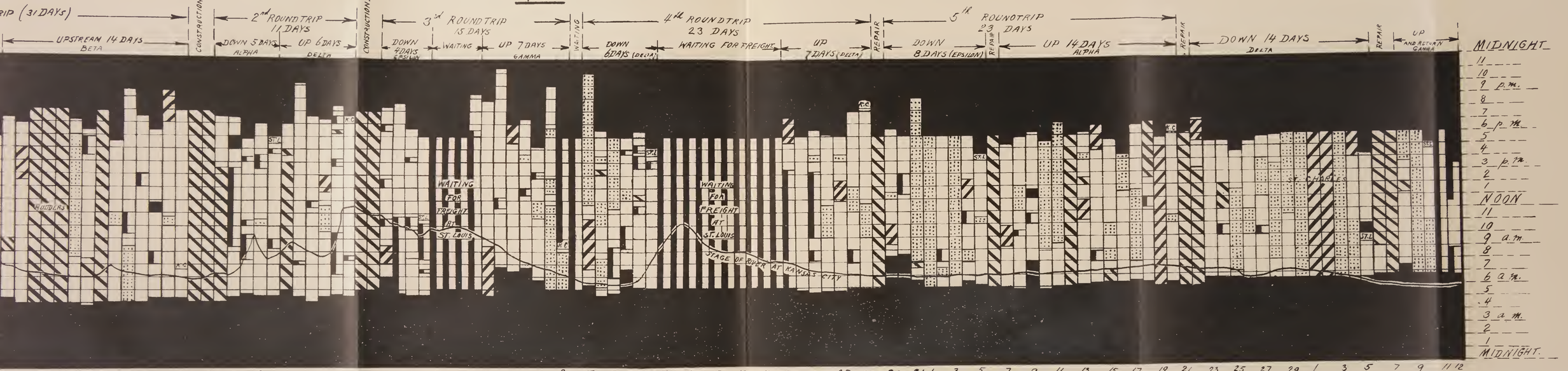
OPERATING DIAGRAM.

IN SERVICE 131 DAYS.

1914.

1914.

KANSAS CITY MISSOURI RIVER NAV. CO
WALTER S. DICKEY. Pres.



COMPILED BY · M. von Tagenhardt

NAVAL ARCHITECT.

RUNNING TIME.

LOADING, UNLOADING.

MACHINERY, BOILER TROUBLE.

NAVIGATION TROUBLE.

COALING TIME.

LAY UP FOR NIGHT, FOG &c.

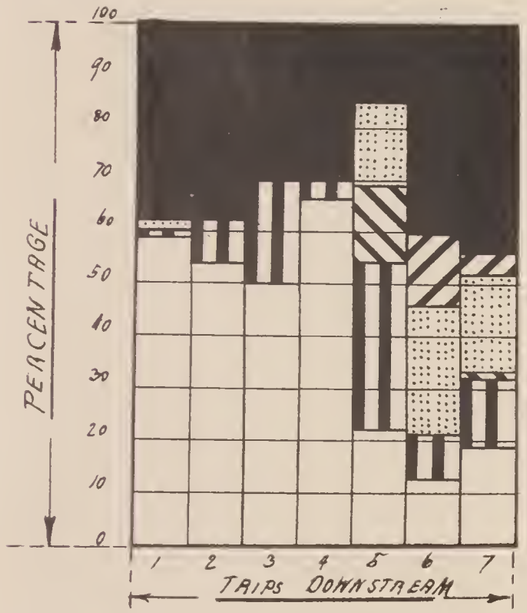
TOWBOAT A. M. SCOTT.

DIAGRAMS SHOWING OPERATING EFFICIENCY.

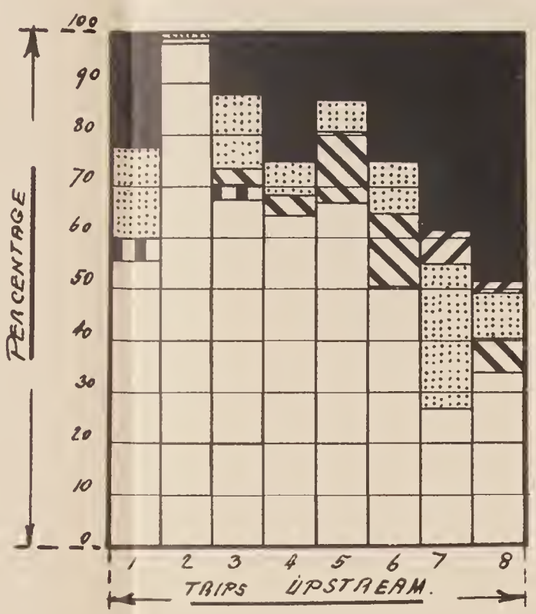
1913.

KANSAS CITY MISSOURI RIVER NAV. CO.
WALTER S. DICKEY, Pres.
KANSAS CITY, MO.

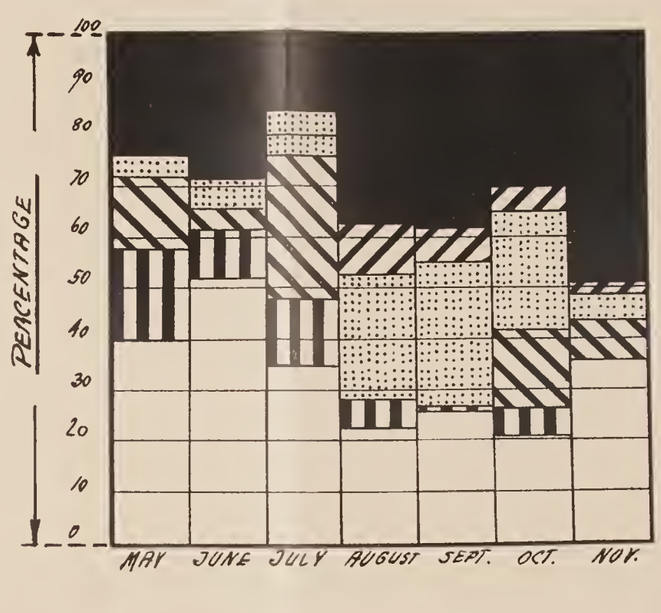
EFFICIENCY OF SEASON.



DOWNSTREAM EFFICIENCY.



UPSTREAM EFFICIENCY.



MONTHLY EFFICIENCY.

COMPILED BY Wm. Tegenhardt.
Naval Architect.

THE NORRIS PETERS CO., WASHINGTON, D. C

House Doc. No. 463 ; 64th Cong., 1st Sess.

1913.

SECOND QUARTER.

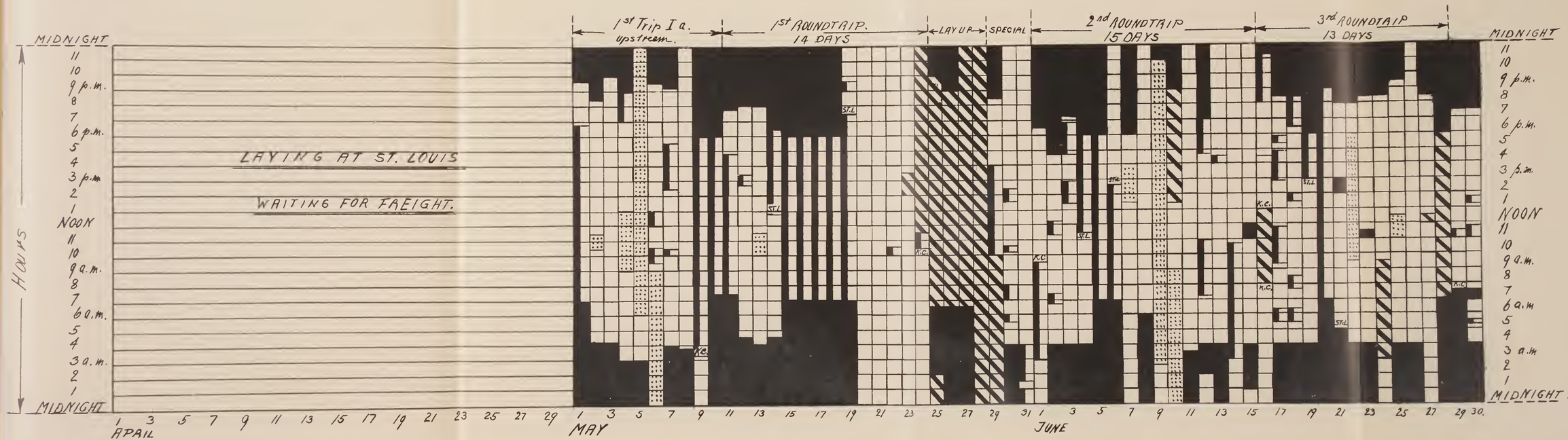
1913
1. 3.

STEAMER "A. M. SCOTT.

OPERATING DIAGRAM.

APRIL 1st to JUNE 30th.

ACTUAL RUNNING TIME
LOADING AND UNLOADING
NAVIGATION TROUBLE
ENGINE & BOILER TROUBLE
LAY UP FOR NIGHT OR FOG.


1st Trip Ia. upstream.
1st ROUNDTRIP. 14 DAYS
LAY UP
SPECIAL
2nd ROUNDTRIP 15 DAYS
3rd ROUNDTRIP 13 DAYS
MIDNIGHT
11 10 9 p.m. 8 7 6 p.m. 5 4 3 p.m. 2 1 NOON 11 10 9 a.m. 8 7 6 a.m. 5 4 3 a.m. 2 1 MIDNIGHT
HOURS
LAYING AT ST. LOUIS
WAITING FOR FREIGHT.
ST.L.
K.C.
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29
APRIL
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31
MAY
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 30.
JUNE

KANSAS CITY MISSOURI RIVER NAVIGATION CO.
WALTER S. DICKEY. Pres.
KANSAS CITY, MO.

THE HORRIS PETERS CO., WASHINGTON, D. C

House Doc. No. 463; 64th Cong., 1st Sess.

RUNNING TIME
LOADING "
MACHINERY TROUBLE
NAVIGATION " "
COALING TIME
LAYUP FOR NIGHT &c.

STEAMER A. M. SCOTT.

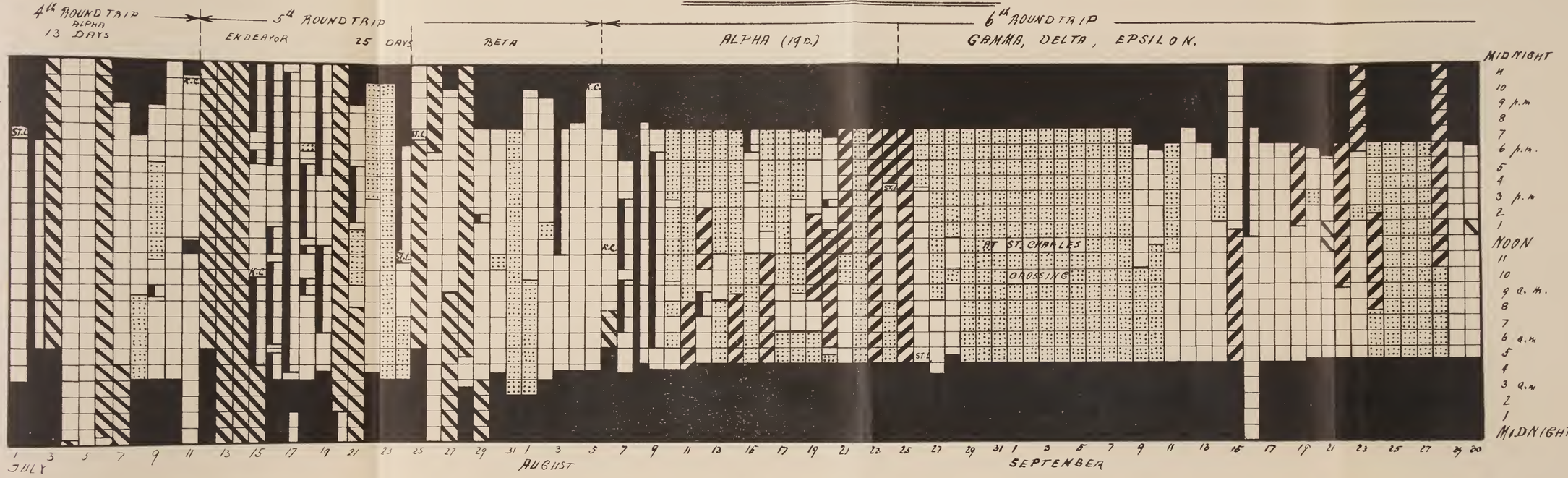
OPERATING DIAGRAM.

JULY 1ST – SEPTEMBER 30TH.

KANSAS CITY MISSOURI RIVER NAV. CO.
WALTER S. DICKEY. Pres.

1913
2. | 3.

THIRD QUARTER.



COMPILED BY M. von Tagenfeldt
NAVAL ARCHITECT.

House Doc. No. 463 ; 64th Cong., 1st Sess.

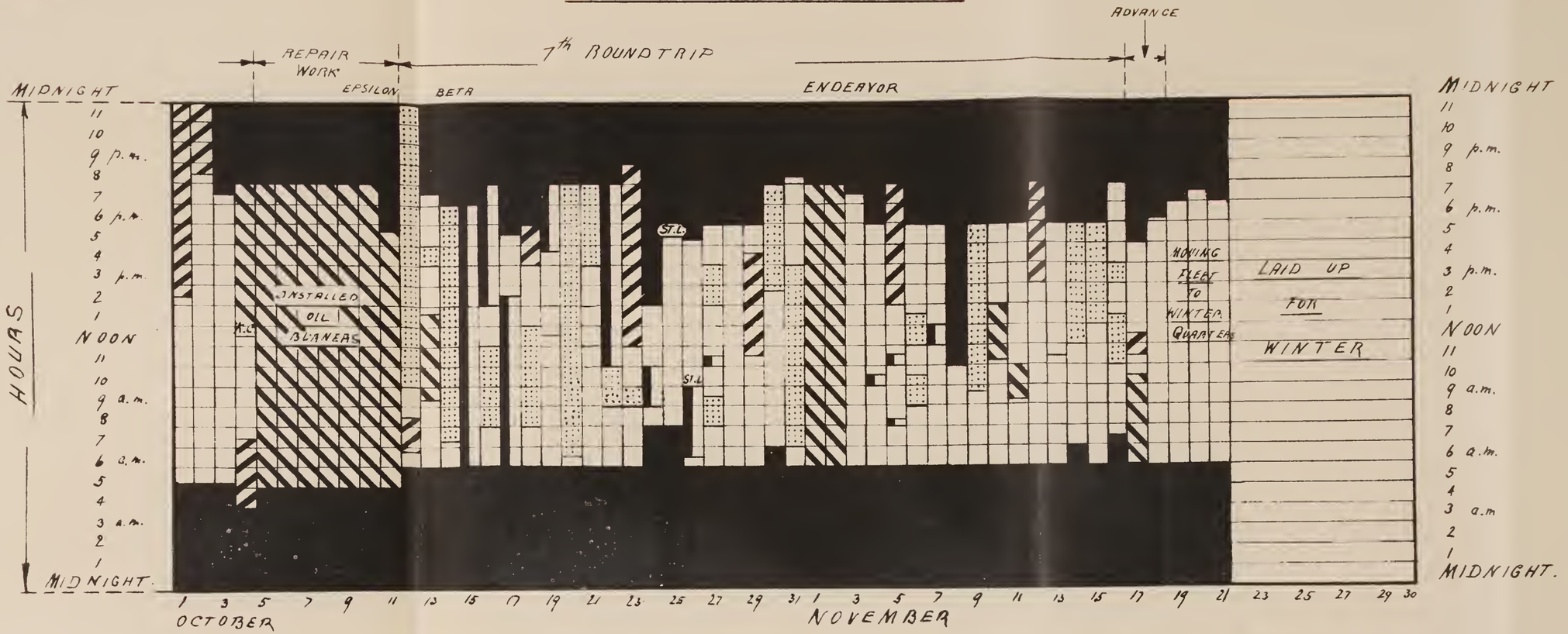
1913
3. | 3.

RUNNING HOURS
LOADING "
NAVIGATION TROUBLE
MACHINERY " "
COALING HOURS
LAID UP FOR NIGHT, FOG OR STORM.

TOWBOAT A.M. SCOTT.

OPERATING DIAGRAM.

October and November.



KANSAS CITY MO. RIVER NAV. CO.
WALTER S. DICKEY, Pres.
KANSAS CITY, MO.

Compiled by H. von Tagenkerdt

House Doc. No. 463 64th Cong., 1st Sess.

RUNNING HOURS

LOADING HOURS

NAVIGATION DELAY

MACHINERY . .

LAID UP FOR NIGHT.

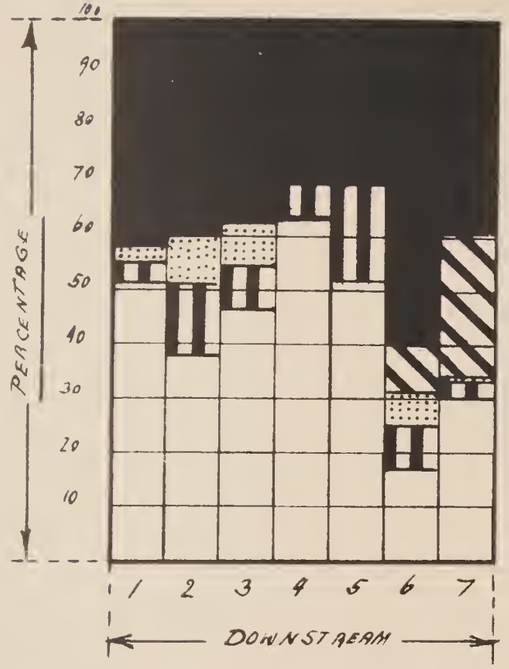
STERNWHEEL TOWBOAT "ADVANCE".

DIAGRAMS SHOWING OPERATING EFFICIENCY.

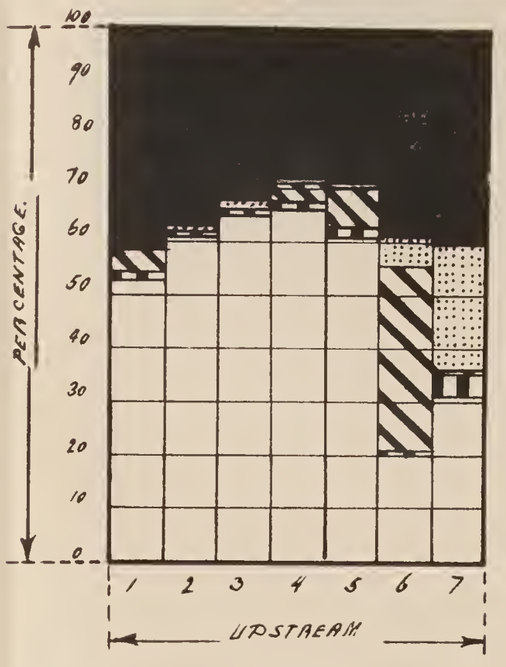
1913

KANSAS CITY MISSOURI RIVER NAV. CO.
WALTER S. DICKEY Pres. KANSAS CITY, MO.

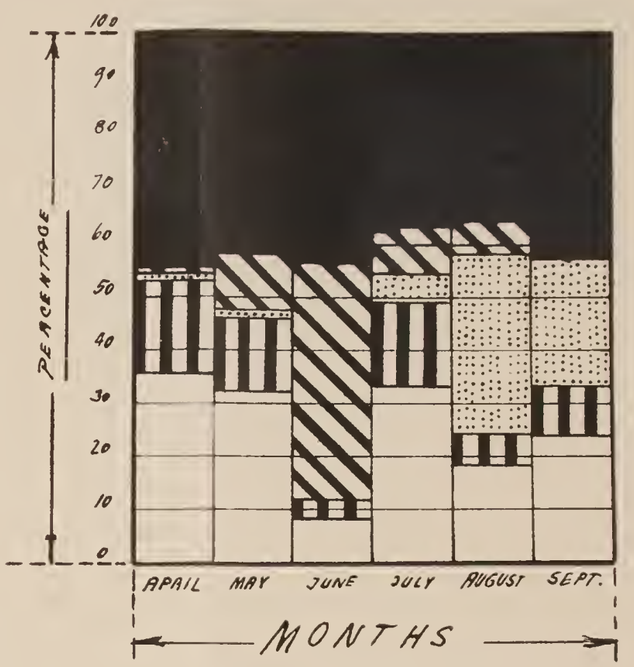
EFFICIENCY OF SEASON.
185 DAYS.



DOWNSTREAM EFFICIENCY.



UPSTREAM EFFICIENCY.



MONTHLY EFFICIENCY.

COMPILED BY W. von Tagenhardt.
NAVAL ARCHITECT.

House Doc. No. 463 ; 64th Cong., 1st Sess.

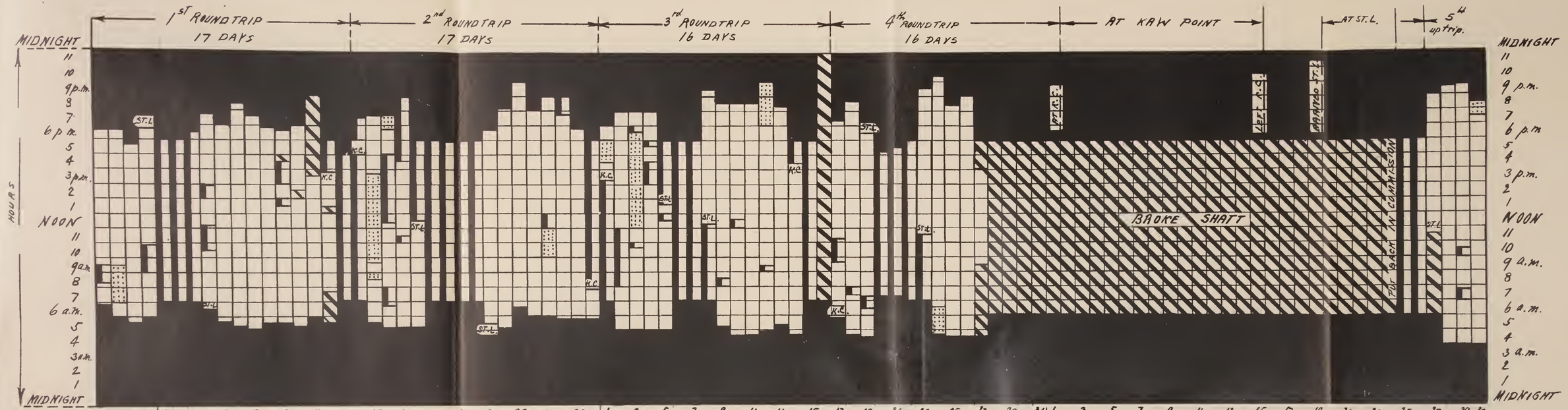
1913
1 | 2

STEAMER "ADVANCE"

OPERATING DIAGRAM

MARCH 28th — JUNE 30th.

RUNNING HOURS
LOADING " "
NAVIGATION DELAY
MACHINERY " "
LAID UP FOR NIGHT, FOG OR STORM



KANSAS CITY MISSOURI RIVER NAV. CO.
WALTER S. DICKEY Pres. KANSAS CITY, MO.

M. von Tagenhardt.

THE NORRIS PETERS CO., WASHINGTON, D. C

House Doc. No. 463 ; 64th Cong., 1st Sess

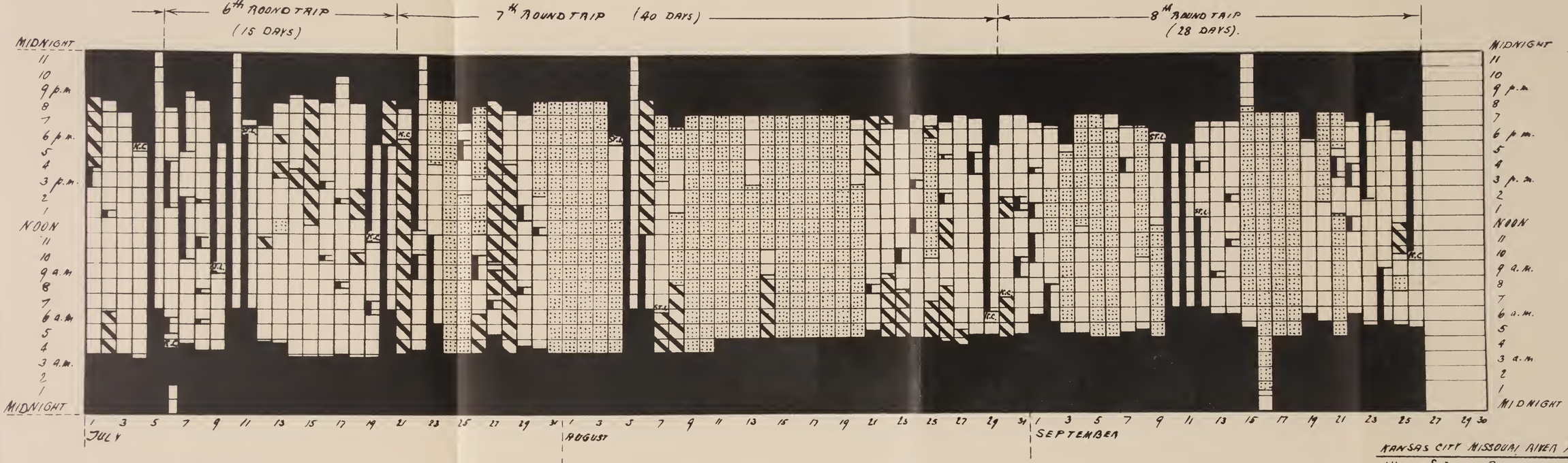
1913
2 | 2

RUNNING HOURS
LOADING "
NAVIGATION DELAY
MACHINERY " -
LAID UP FOR NIGHT

STERNWHEEL STEAMER "ADVANCE".

DIAGRAM OF OPERATION.

JULY 1ST - SEPT. 30TH.



KANSAS CITY MISSOURI RIVER NAV. CO.
WALTER S. DICKEY. PRES. KANSAS CITY, MO.

Compiled By M. von Tagenkadt.

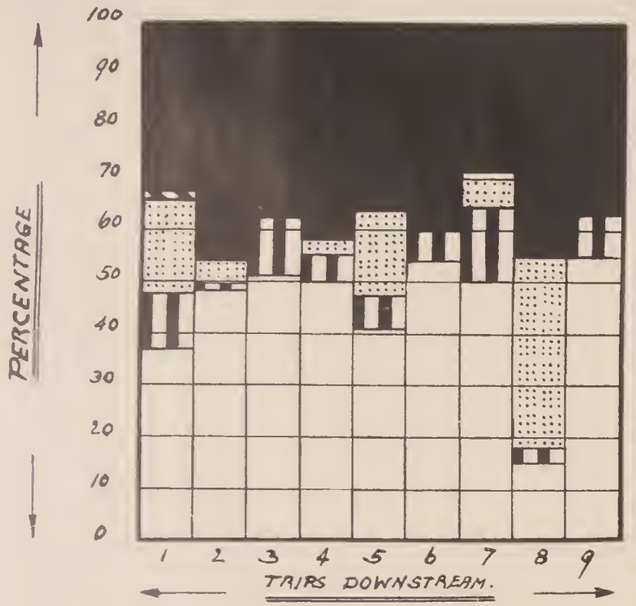
House Doc. No. 463 ; 64th Cong., 1st Sess.

STEAMER "CHESTER".

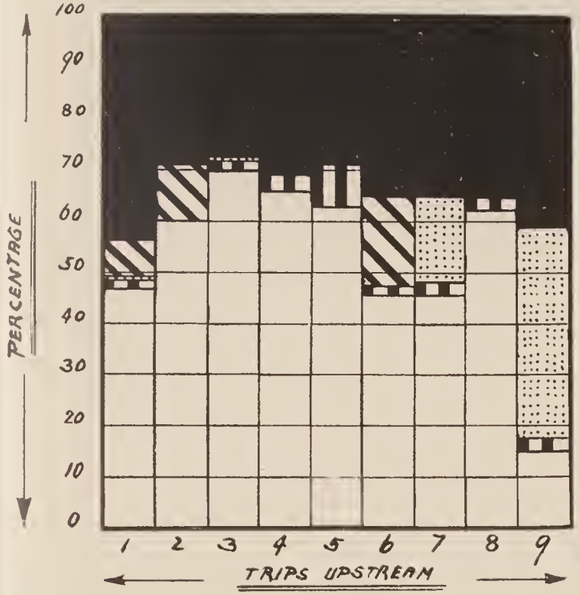
1913.

DIAGRAMS SHOWING OPERATING EFFICIENCY

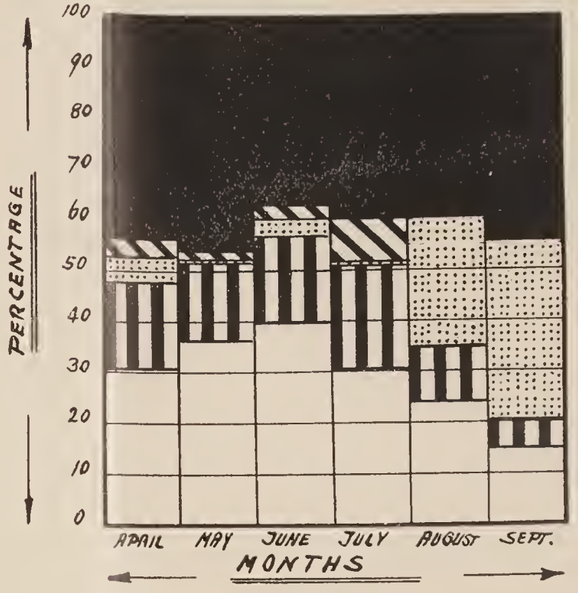
EFFICIENCY OF SEASON



DOWNSTREAM EFFICIENCY



UPSTREAM EFFICIENCY.



MONTHLY EFFICIENCY

ACTUAL RUNNING TIME.

TIME LOST FOR LOADING AND UNLOADING.

TIME LOST ON ACCOUNT OF NAVIGATION TROUBLE.

" " " " " MACHINERY TROUBLE.

" LAID UP AT NIGHT, FOG AND STORM.

KANSAS CITY MISSOURI RIVER NAVIGATION CO.

WALTER S. DICKEY. Pres.

KANSAS CITY, MO.

H.D.1.

THE NORRIS PETERS CO. WASHINGTON, D. C.

House Doc. No. 463 ; 64th Cong., 1st Sess.

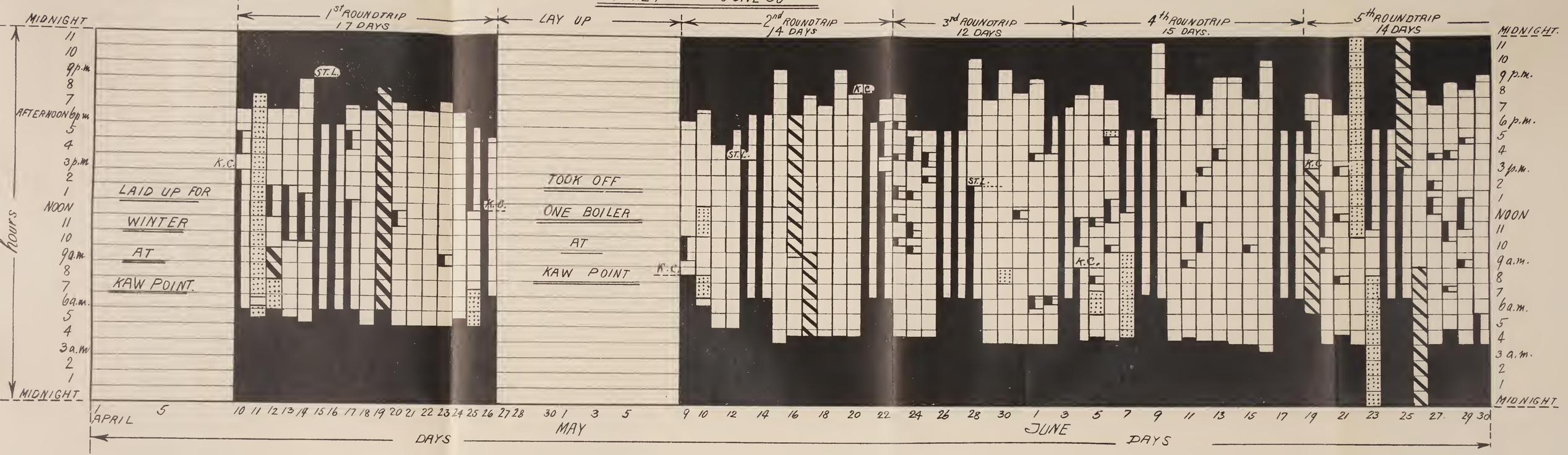
ACTUAL RUNNING TIME.
LOADING AND UNLOADING.
NAVIGATION TROUBLE, GROUNDING, etc.
ENGINE AND BOILER TROUBLE
LAY UP FOR NIGHT OR FOG.

STEAMER "CHESTER"

OPERATING DIAGRAM

APRIL 1st — JUNE 30th.

1913. SECOND QUARTER



KANSAS CITY MISSOURI RIVER NAV. CO.
WALTER S. DICKEY. Pres.

THE NORRIS PETERS CO., WASHINGTON, D. C.

House Doc. No. 463 64th Cong., 1st Sess.

ACTUAL RUNNING TIME
LOADING TIME
MACHINERY TROUBLE
NAVIGATION " "
LAY UP TIME FOR NIGHT, FOR STORM.

STEAMER CHESTER.

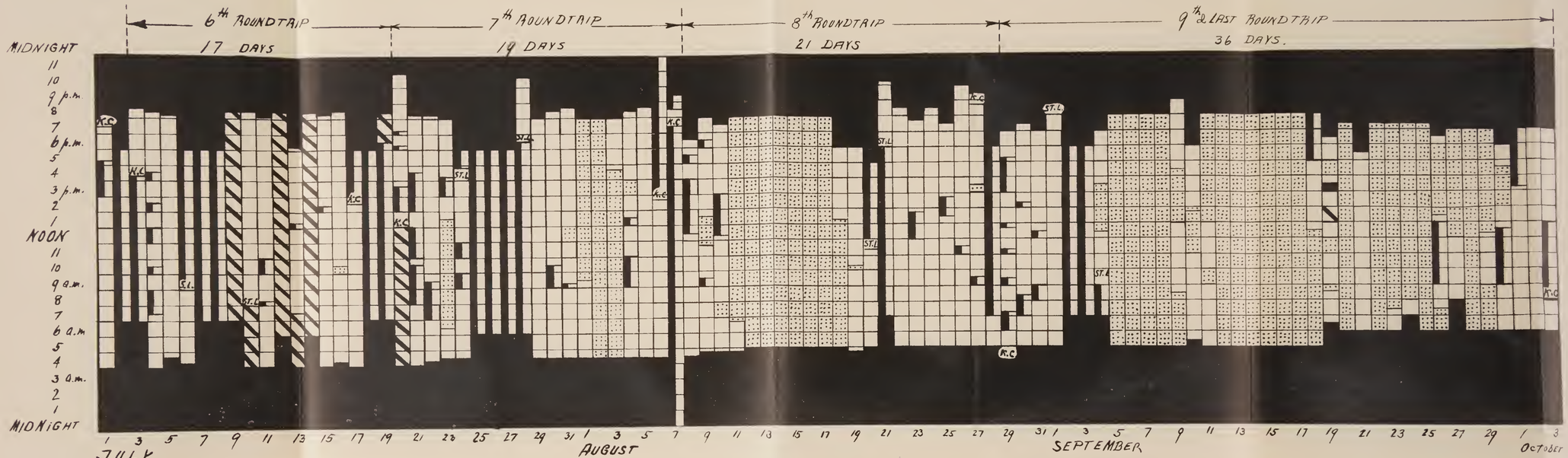
OPERATING DIAGRAM.

JULY 1st to OCTOBER 3rd.

KANSAS CITY MISSOURI RIVER NAV. CO.
WALTER S. DICKEY. Pres.

THIRD QUARTER.

1913.
2 | 2.



K.C.M.R.N. Co.
COMPILED BY
M. Von Pagenhardt

House Doc. No. 463 ; 64th Cong., 1st Sess.

CHART OF THE MISSOURI RIVER FROM KANSAS CITY TO MOUTH,

Giving by months, the location and number of times boats were aground in years 1913, 1914 and 1915. Also the location of the completed river improvement since 1910 and the lo

LIGHT No.

LEFT BANK

SEASON 1913
April
May
June
July
August
September
October
November

SEASON 1914
March
April
May
June
July
August
September
October
November
December

SEASON 1915
March
April
May
June
July
August
September
October
November
December

Bars and Crossings { (Right Bank)

Miles from Kansas City

" " " St. Louis

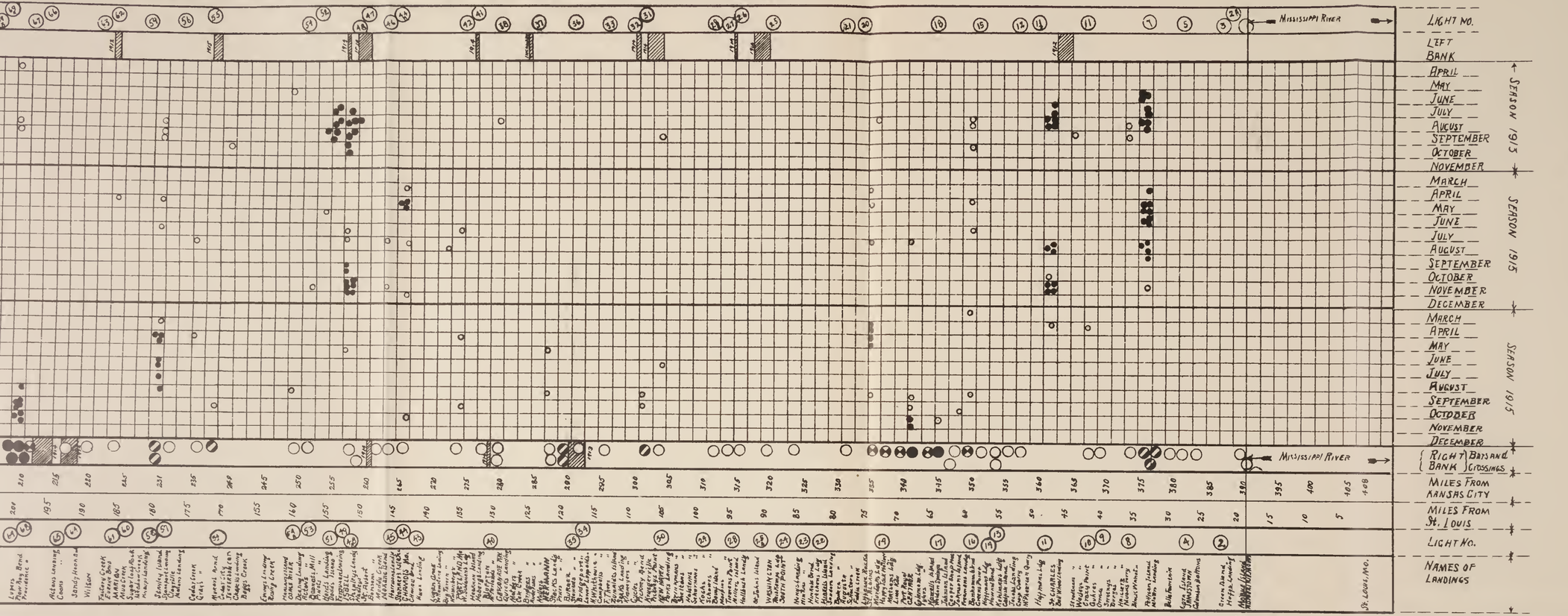
Light No.

Names of Landings

THE NORRIS PETERS CO., WASHINGTON, D. C

OM KANSAS CITY TO MOUTH,

f the completed river improvement since 1910 and the location and condition of crossings and bars at the close of Navigation 1915.



- Serious Groundings causing Navigation Delay,
- Minor " " " " " " " " " "
- Crossings and Bars, Channel Depth over 6 Feet,
- " " " " " " " 5 to 6 " ,
- " " " " " " Narrow and very Crooked
- " " " " " " " " Depth 3½ Feet,
- River improvement since year 1910.

Total number of crossings Depth over 6 Ft =	84
" " " " " 5 to 6 Ft =	24
" " " " " Narrow and Crooked =	12
" " " " " " Depth 3½ Ft =	6
Total number of crossings K.C. to Mouth =	123

Kansas City Missouri River Navigation Co
Kansas City, Mo.

Walter S. Dickey. Pres.

Compiled By S.I. Flournoy.

House Doc. No. 463, 64th Cong., 1st Sess.

of the old type, was rebuilt and made ready for service in 1911, in pursuance of the promise which had been made to the Rivers and Harbors Committee of Congress, that river service would begin in 1911 if Congress would begin the appropriations for river improvement.

Meanwhile the towboat and barge system had been decided upon as the most desirable for inland water use, and the towboat *A. M. Scott*, with three all-steel merchandise barges, was put into service in the spring of 1912. Later in the season the small towboat *Advance* and an additional steel barge was put into service. Three additional steel barges were constructed and added to the fleet in the summer of 1913.

This brings the history of the fleet down to the season of 1913, which is the season chosen by Col. Deakyne as illustrating the commercial possibilities of the Missouri River. The progress in two seasons from the old Texas-deck boat *Chester*, in 1911, to the fleet of two towboats and seven steel barges, in 1913, is a creditable showing. During the season of 1913 the boat line company was not able to accept all of the freight tendered to it, and this has been true frequently during its career, so that the amount of traffic carried in 1913 is by no means a criterion from which to judge the ultimate use of the river. It must be borne in mind, also, that the boat line was operating upon a partially improved river, and could only load its boats to a draft corresponding to the shallowest places in the stream between Kansas City and St. Louis. As it costs almost as much to operate a boat partially loaded, or with small draft, as it does to operate one fully loaded, and a full draft, it will readily be seen that carrying on operations upon a partially improved river was done at such a disadvantage and such an excessive cost of operation over what was normal and proper, that considerable capitalization was necessary to undertake the experiment. Nevertheless, it is safe to say that the deficit of the boat line company during the first three seasons of its operation will compare very advantageously with the deficits of any other new transportation line ever established. No railroad ever made operating expenses and fixed charges during its initial years.

Further light is thrown upon the disadvantage of operating upon a partially improved river, in this fact—the engineers of the boat line company are of opinion that it is possible to operate upon a 6-foot channel steel barges with a capacity of 1,500 to 2,000 tons. At the same time, some smaller barges ought to be operated to accommodate special shippers at way points, but for through business the larger the barge the cheaper the handling. The first steel barges built by the boat line company were 1,400 tons. It was found that the partially improved river would not permit the operation of barges of this size without greater loss than was wise to be incurred; therefore as the building of barges progressed they were built in smaller sizes, to accommodate themselves to the shallow places in the river. The boat line company did not feel like investing all of its capital in large-size barges, which could not be used on the partially improved river; neither did it feel like investing too much of its capital in small barges which could be profitably used on the partially improved river but which would not be needed when the improvements were completed. It wisely concluded to hold back the major portion of its capital to be used in adding to its fleet as the improvements of the river progressed. Yet this very course of conservative conduct on the part of the boat line company, which has insured the permanency of its enterprise, is pointed out in Col. Deakyne's report as a reason for abandoning the improvement of the Missouri River. His argument is entirely based upon the tonnage carried in 1913 on a fleet of boats which was the very best which could be adapted to the state of the river in 1913. If the condition of the river during the season of 1913, and the progress of the improvements made by the Government up to that time are compared with the growth of traffic in 1913, and the growth of the fleet of boats upon the river, it will be seen that the commercial interests of Kansas City and the Missouri Valley have made a larger use of the river in proportion to its improvement than the Government had reason to expect or anticipate.

This encouraging use of the river can not, in fairness, be used as the measure of the ultimate use of the improved channel of 6-foot draft clear through from Kansas City to St. Louis. It must be borne in mind that the project was formally adopted by Congress after mature deliberation and ample examination and reexamination on July 25, 1912. Only one full navigation season succeeded that formal adoption by Congress—the season of 1913—and it is scarcely fair to take the very first season following the adoption by Congress as the final criterion from which to judge of the commercial use of the river. It is hardly to be inferred that Congress intends its judgment to be reversed on a project of this magnitude after an experience of but one year.

Down to March 4, 1913, the total amount of appropriations for permanent improvement of the river had been $2,400,000. On March 4, 1913, an additional appropriation of $2,000,000 was made, but it can not be said how much of this was actually reflected in the improved conditions of the river during the season of 1913. No further appropriation was made until October 2, 1914, two full seasons later. As the appropriation of October 2, 1914, was practically at the close of construction season of that year, it would be available for construction work in the season of 1915. On March 4, 1915, a further appropriation of $1,000,000 was made, which would also be available for construction work in the season of 1915. This makes up the total appropriations of $6,250,000, and of this only about $4,000,000 had been expended, and had its effect upon the improvement of the stream up to March 4, 1915. In fact, the figures are given by Col. Deakyne himself in his report as $3,577,290.85. Of this amount nearly $300,000 was for maintenance, leaving $3,286,082.59. Of this last amount a further deduction must be made for the construction of the plant, valued at over $600,000, so that the actual amount which went upon the banks of the river, toward the establishment of a permanent channel, is relatively very small. We have seen that in the season of 1913, which Col. Deakyne chooses as the commercial criterion, the improvement of the banks had scarcely begun, and even in 1915, two years after the date of his estimate, his statement is that only 9 per cent of the project is completed.

Attention is invited to the light which is thrown on the commercial use of the river, by a careful comparison of the progress of the Government work on the river, with the results of the various navigation seasons.

Even in view of the fact that down to the season of 1915 only 9 per cent of the Government work had been done we desire to invite your particular attention to the rapid growth of traffic upon the river.

Was reexamination required from commercial or engineering standpoint?—It is entirely conceivable that the purpose of Congress in ordering a reexamination of the Missouri River project in the river and harbor act of March 4, 1915, may have been to determine whether from the progress already made the engineering project had been found to be sound and the plan feasible.

It is conceivable that Congress would want to know before proceeding further with the work what had been the results, from an engineering standpoint, in the progress already made. If the district engineer in charge of the work had become satisfied from an experience of three seasons, that the plan of improvement was not practicable, or could not be carried out within the estimated cost, this information would have been of great importance to Congress, and would have shown that the improvement ought either to be abandoned or modified. But the experience of the district officer, in carrying out the plan of improvement, having demonstrated in a practical way the soundness of the opinion of the engineers who passed upon the plan of the improvement before it was adopted, it may be assumed that, in so far as is possible with an engineering work of such magnitude, the success of the undertaking and the correctness of the estimating of its cost is reasonably well settled.

It is far more conceivable that Congress should be interested in knowing the results of progress, from an engineering standpoint, as tending to show the ultimate success or failure of the plan than that Congress should be interested in a reexamination by the district engineer of the commercial importance of the improvement.

Congress must have assumed that the opportunities of the district engineer for passing upon the question of the present and prospective commercial value of the improvement was much more limited than the opportunities of Congress itself.

The data necessary to examine on this subject was not peculiarly within the reach of the district engineer. Great masses of it, of comparatively recent date, is already in the files of the Committee on Rivers and Harbors of the House of Representatives.

It may be noted that the act of Congress providing for the reexamination of the Missouri River from Kansas City to the mouth was approved March 4, 1915.

The report of the district officer recommending the abandonment of the permanent improvement of the Missouri River is dated April 22, 1915. In the brief time intervening between the act of Congress authorizing the reexamination and the report of the district officer it is not known what investigation was made into the commercial features bearing upon the importance of the project. The report bears upon its face evidence that no independent investigation was made along this line. It is based entirely upon two propositions:

First, the general commerce on the river for the season of 1913; second, a comparison between that commerce and the commerce now carried on the Mississippi River between the mouth of the Ohio and the mouth of the Missouri.

RECENT DEVELOPMENT OF COMMERCE ON MISSOURI RIVER.

Comparative tonnage statement of Kansas City-Missouri River Navigation Co.

Season.	Tons moved.	Increase over previous season.	Increase.
			Per cent.
1911	1,084	.....	.....
1912	5,215	4,131	381
1913	9,784	4,569	87.6
1914	13,677	3,893	39.8
1915 [1]	27,306	[2] 19,480	[3] 142.4

[1] Tonnage calculated to Oct. 1, 1915. Season ends Nov. 15, 1915. Full season's tonnage on this basis would be 33,157 tons.
[2] Increase based on full season.
[3] Percentage increase based on full season.

Ton-mile movement.

Season.	Total ton-miles.	Season.	Total ton-miles.
1911	435,728	1914	4,771,107
1912	1,889,467	1915 (to Oct. 1)	10,708,399
1913	3,604,316		

It appears from this statement that the growth of the boat-line traffic has been very rapid and with the connections now established and the business which has now been worked up through shippers the growth will be more rapid in the immediate future. It takes time to work up a new business and to get the line known to the shipping public.

It will be observed that in the year 1913, upon which Col. Deakyne bases his estimate of the commercial use of the river, the boat line carried but 9,784 tons, out of a total of 37,551 tons of general merchandise. In the season of 1915 the boat line alone will carry 33,157 tons, which is three and one-half times the tonnage it carried in 1913, and nearly as much as the entire traffic of 1913 as stated in the Deakyne report. The ton-mile movement also indicates the increase of through shipments of high-grade freight.

The second proposition will be discussed in a subsequent chapter under section 14.

Increased equipment for the boat line under way.—The statement of Mr. A. W. Mackie: "While willing and anxious to expend whatever sum might be necessary to determine the best types of boats and barges for this service, the results of which experiments have no doubt been of very great benefit to all of those interested in inland water craft, the management of the navigation company naturally does not wish to expend all of its funds for shallow-draft boats, the power of which is limited by the available draft in the unimproved river, when it was justified in expecting channel improvement to continue until a 6-foot channel would be assured and on which draft much more powerful boats could operate with relatively greater economy. It is submitted that, no matter how modern in design and economical in operation, towboats perfectly suited to present channel conditions will be forced to the scrap heap or out of the trade because of what the Interstate Commerce Commission terms 'obsolescence,' when it is possible to employ deeper draft, and, therefore, much more powerful units. (Witness the many excellent steel and iron boats in the scrap heaps of the Great Lakes because of obsolescence.) A new power plant was installed on the towboat *Advance* in 1914, increasing her towing capacity to that of the *A. M. Scott* and all that could be provided on a draft limit of 3 feet. Material reductions in the appropriations required under the adopted project resulted in less improvement than had been anticipated and the navigation company found it necessary to provide lighters for use in the low-water season. As there are seldom more than one or two extremely shallow crossings at any one time, it is found desirable to load the merchandise barges to a reasonable capacity and lighter them over such one or two shallow crossings. Four steel barges for this service have been built in Kansas City this summer. During stages of higher water these lighters are also used to carry such commodities as do not require housing in transit and for transporting from local points

such commodities as grain, hay, apples, live stock, and other freight not highly perishable, the barges being dropped at landings to be loaded by the shipper without delay to the towboat, and when loaded picked up by the next passing towboat."

The operation of these new barges is shown in the following clipping from the Kansas City Times, October 12, 1915:

BOATS BUSY EVERY MINUTE—CAPACITY CARGOES OF APPLES AND WHEAT BEING HANDLED.

The new light-draft barges of the Kansas City-Missouri River Navigation Co. are being operated to capacity these days. One of the three already in service, loaded with building materials, was taken down the river from here Sunday by the tow steamer *Advance* to Miami, Mo. There the steamer picked up the two others that had been loaded with 2,000 barrels of apples.

They will be docked in Kansas City to-day and the apples placed in storage here. The barge now at Miami will be taken downstream to be loaded with a capacity cargo of corn and wheat for shipment to St. Louis, and there it will be loaded again with structural steel for delivery here. The fourth of the small barges probably will be completed for service next week.

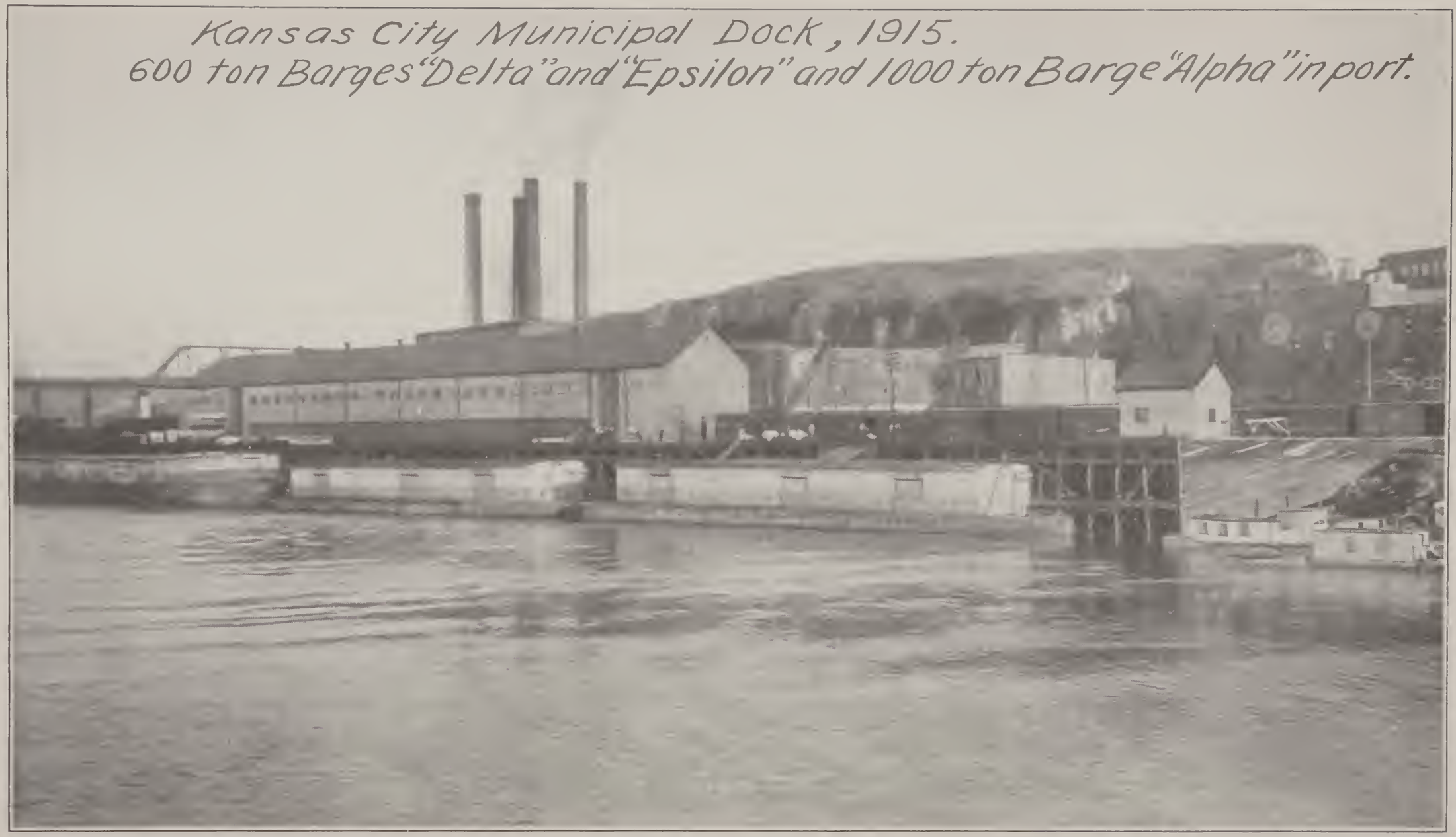
The steamer *Advance*, after returning to Kansas City this morning from Miami, will pick up one of the larger barges, already loaded, for an immediate down-river trip to St. Louis.

Wharves and warehouses.—The futility of attempting to revive river navigation without modern terminals was recognized by Kansas City, and while promoting the barge line attention was given to the terminal matter. This resulted in a public bond issue of $75,000, out of the proceeds of which a municipal terminal was constructed at Kansas City on water-front property owned by the city. After having the bonds voted, considerable effort and money was expended in clearing the title to the property. The Kansas City Municipal Terminal, completed in 1911, consists of a wharf 550 feet long and 50 feet wide, equipped with a 2-ton electric crane, operating on a track extending along the wharf from end to end, and a steel and concrete warehouse adjoining the wharf, 306 feet long and 40 feet wide, equipped with an electric telpher. This wharf is served by a switch track connecting with all rail lines entering Kansas City. The growth of river business necessitates the building of an additional track and the provision of an additional freight-handling unit, both of which will be ready for service in the spring of 1916. The navigation company found it necessary to erect, at its own expense, a modern terminal at East St. Louis, with a switch track connected to all rail lines entering that port. This terminal is equipped with an electric conveyor and a telpher. The operation of this terminal and the volume of exchange freight there, handled with rail lines, has done much to encourage the city of St. Louis in the matter of a municipal terminal, the funds for which are now available and the plans nearing completion.

Many cities on the Missouri River, between Kansas City and St. Louis, are now contemplating the erection of river terminals. The navigation company has prepared plans for such terminals and has the assurance that a number of them will be erected as soon as the channel is permanently improved in front of the various towns. One association of farmers has already erected a warehouse for the accumulation and shipment of farm products. Two old-time river warehouses have been revived, and other farm districts are preparing to erect warehouses so that conditions along the Missouri River may be said to have very favorably improved since the resumption of navigation.

Farmers can ship direct to market.—On this point Mr. A. W. Mackie says: "Since the value to the producer of grain and farm products is the price at the market less the cost of transportation to market, it is worthy of note that navigation of the Missouri enables producers to ship at water rates direct from farm to market, thus obtaining full market price for such product, less the water transportation rate to market, instead of being obliged to sell to a middleman at from 5 to 10 cents per bushel under the market, where grain is accumulated in rail elevators. Or, in the case of other farm products, the farmer has the option of shipping to the larger market whereas, without navigation, he is compelled to accept local prices or sell to a middleman."

Net saving in freight rates.—On this point Mr. A. W. Mackie says: "The water rates in effect between Kansas City and St. Louis are 20 per cent less than existing rail rates, and include warehouse delivery of carloads to industries receiving such service on rail shipments. In other words, the 20 per cent reduction is a net saving of 20 per cent to shipper. By according shippers the same delivery conditions as obtained by rail movement; by handling freight in steel, weatherproof cargo houses; by transshipping directly and promptly from car to barge and barge to car; by providing marine insurance without additional cost and promptly paying all damage



Kansas City Municipal Dock, 1915.
600 ton Barges "Delta" and "Epsilon" and 1000 ton Barge "Alpha" in port.

Kansas City Municipal Dock, 1915, Cost $75,000.00

Dock of creosote material; 550 ft. long, 50 ft. wide; equipped with 2 ton electric crane. Warehouse, steel frame; metal lath-concrete sides; 300 ft. long, 40 ft. wide; equipped with overhead electric telpher.

Interior of Municipal River Warehouse-Kansas City, Sept. 8, 1914.

East St. Louis Terminal, Kansas City Missouri River Navigation Co.
Barge "Gamma" loading with electric telpher and conveyor. View from South.

East St. Louis Terminal, Kansas City Missouri River Navigation Co.
Showing East or shore end of warehouse; electric telpher over switch track.

claims; by receiving and delivering freight every day; and by rendering regular dependable service throughout the season, we are enabled to solicit and secure, purely upon the merits of the service, freight of almost every class and kind. Having developed the service to this extent, it is fair to assume that the river will secure its fair share of the business. Boats now operate continuously, night and day, upstream; only daylight downstream. With further channel improvement, continuous night and day operation will follow, both upstream and down, thus shortening the time of delivery and improving the service. With the addition of another towboat now being designed, and other boats and barges as the channel is improved, the volume of freight moving by river will surely continue to largely increase from year to year as it has done in the past, since the improvement project was begun."

Analysis of Report of District Officer.

Section 4.

RIVER TRAFFIC HAS INCREASED FASTER THAN THE GOVERNMENT WORK HAS PROGRESSED.

"It is estimated that the project is about 9 per cent completed. There have been large expenditures for plant since the inception of the project, and for that reason and on account of the lack of appropriations, at the proper rate, the amount expended and the percentage completed appear out of proportion."

The district officer states that the improvement of the river was only 9 per cent completed by March 4, 1915. The stage of completion at the beginning of the season of 1913 would, therefore, be less than one-half of this. If such a test were applied to a projected railroad 1,000 miles in length it would assume that when 50 miles were completed at any portion of the projected line a correct estimate could be based on the extent of the actual traffic over the partially completed line to determine whether the entire 1,000 miles would pay interest and operating expenses upon the investment.

It is only fair, however, to say that his statement that 9 per cent of the work was completed on March 4, 1915, does not give a clear and comprehensive view of the situation. He probably means that 9 per cent of the work contemplated in the $20,000,000 proposition was completed, but counting the portion of the river which had been permanently improved by the Missouri River Commission and the portion that was navigable in its natural state it is probable that between 30 and 40 per cent of the river was open to navigation in the season of 1915. It is the remaining 60 per cent, therefore, which will be put in condition for permanent navigation by the completion of the $20,000,000 project. It is this 60 per cent, however, of river which is navigable only under favorable conditions of high water and to a limited extent that is holding back the use of the river as a freight carrier. A railroad might be able to begin carrying freight even though all of its bridges were not in place because it could under the spur of necessity transfer its freight around a number of bad and impassable places, but the difference between operating under these conditions and operating after the last bridge is in place and trains of full capacity can go through from one treminus to the other without interruption is apparent. This is more nearly the condition of traffic on a partially improved river.

Emphasis is placed upon this point by a statement in the district officer's report itself in a succeeding paragraph. In paragraph No. 15 he says:

"Any attempt at partial improvement seems futile because the draft of boats, and, therefore, their cargoes, will be determined by the least existing depth. If the river is improved at all, the work should be complete as to the protection of banks and control of channels."

It is strange, therefore, that this very important element was omitted from his consideration in the status of commerce in 1913.

Increase in high-grade commerce.—But we may again quote the district officer's statement in another connection:

[Extract from annual report of Lieut. Col. Deakyne, Oct. 5, 1914.]

"In high grade commerce there has been a decided increase. Total mileage for the year was 5,173,170 ton-miles. The commerce of this section of the river is now in process of changing and increasing. The Kansas City Missouri River Navigation Co., organized with a capital of about $1,200,000, operated its first boats during 1911. The company has three small steel-hull towboats, eight barges, and several smaller craft. A municipally owned creosoted pile wharf 500 feet in length has been completed at Kansas City, and a terminal warehouse 306 by 40 feet built on the wharf, arranged with locomotive cranes and telpherage system of handling freight. (For

detailed description, see Annual Report, Chief of Engineers, 1912, p. 2202.) The company also has a warehouse and wharf at East St. Louis, Ill., and is arranging with the towns on the Missouri River between Kansas City and the mouth for local freight landings. The boat rates now in force are about 80 per cent of the rail rates. It is estimated that the sum of $2,200,000 can be profitably expended during the fiscal year of 1916 in the construction of systematic improvement works, maintenance of existing works, and in snagging."

Note his statement:

"In high-grade commerce there has been a decided increase. The commerce of this section of the river is now in process of changing and increasing."

This report was dated October 5, 1914, and has a very different sound than the report of April 22, 1915.

A fair way of expressing the growth of commerce on the Missouri River is not a simple statement of tons carried on the river, but by a comparison of ton-miles. In the season of 1906, as shown by [House] Document 1120, Sixtieth Congress, second session, the total ton-mileage from Sioux City to the mouth was 2,324,379. In 1913, as shown by the annual report of the district officer, the total ton-mileage for the reach of the river between Kansas City and the mouth was 5,173,170. This growth in ton-mileage is more eloquent of increased traffic than a mere statement of aggregate tons carried. In 1913 on the reach of the river between Kansas City and the mouth upon which improvements had begun there was more than double the ton-mileage of the year 1906 on the entire river from Sioux City to the mouth. This means a longer haul for commodities and shows the diminishing importance of a short haul, which was principally sand and lumber.

Feasible from engineer's standpoint.—The improvement of the Missouri River for navigation by securing a permanent 6-foot channel is entirely feasible from an engineering standpoint. This decision has been reached by every engineer, from the days of the Missouri River Commission downward. The estimate of the cost arrived at by the report of Capt. Schulz was $20,000,000 for the reach between Kansas City and the mouth, with an addition of $500,000 a year for maintenance, and $60,000 a year for snagging. This estimate was verified by the special board of engineers appointed under the river and harbor act of 1910. It met the approval of Gen. W. H. Bixby, whose personal familiarity with the river had enabled him to pass upon the question from a practical standpoint. That the project is feasible, and the estimate is substantially correct, is now admitted by the report of Lieut. Col. Deakyne, now before your board. In the fourth paragraph of his report, he says:

"But it has been demonstrated that the work can be done within the estimated unit cost, and it is my opinion that with appropriations at the rate of $2,000,000 per year for improvement and sufficient funds for maintenance, the project could be completed within the total estimated cost."

Sections 5 and 6.

THE RIVER IS CHARGED WITH ITEMS WHICH WERE NOT ESTIMATED AND WHICH HAVE NOT ACCRUED.

The report undertakes, on the basis of the present commerce, on a partially improved river, to decide the question of the commercial returns on the investment of the Government money in the improvement. It says:

"Assuming the money of the Government to be worth 3 per cent interest, the total estimated cost of the project represents $600,000 per year interest. Adding the maintenance cost of $500,000 per year, gives $1,100,000 per year as the permanent charge to the Government resulting from the execution and maintenance of this project."

Interest charge on governmental appropriations a new element.—Again, the district officer introduces an element into the charge against the project, which is entirely new, in allowing interest on the estimated total cost of the project.

No such element was taken into consideration by Gen. Bixby, or any of the engineers who passed upon the proposed project. It has not been taken into consideration in any Government work of this nature, so far as we are aware. Interest on the cost of construction is not even charged against the irrigation projects of the West, although the law expressly requires that the estimated cost of the project be returned by the land benefited. No interest was charged against the amount expended for the construction of the Panama Canal. It would be interesting to see how the theory of the district officer would apply to the Panama Canal.

The construction of the Panama Canal, so far as active work is concerned, may be said to have begun in 1905. There were no earnings during the construction period

from the canal itself. It has cost, including fortification and protection, approximately $400,000,000. Interest on the sums expended during the progress of construction was never charged or contemplated, although the law provided for the issue of bonds to pay for the work, which, if issued, would have imposed a direct interest charge of 3 per cent on the Federal Treasury. The canal was opened in August, 1914. For the year ending July 31, 1915, the total net tonnage passing through the canal was 4,390,405, Panama Canal measurement. The total net collections of tolls were $4,909,150.96. The canal is now closed by slides and will remain closed until November 1. It was the intention of Congress to fix the tolls at a rate that would cover operating expenses, as operating expenses are directly connected with the movement of vessels, and increase as the tonnage increases. But under date of October 9, 1915, Maj. F. C. Boggs, Corps of Engineers, United States Army, writes as follows:

"The governor of the Panama Canal last year estimated the cost of operation and maintenance of the canal would be $5,500,000 annually. This is exclusive of interest on the cost of construction of the canal or authorization of indebtedness. Neither does it include the item of $250,000 paid annually by the United States to the Republic of Panama."

The annual interest charge on the cost at 3 per cent would be $12,000,000. Add to this the annual rental to the Republic of Panama, $250,000—$12,250,000.

The canal is not now making operating expenses. Even after the receipts from tolls begin to show a slight gain over operating expenses, who can say that they will within any reasonable time overtake this interest charge?

If the earnings from tolls should at any time show a very substantial profit over operating expenses there would be an immediate demand, as there is in the Post Office Department, to reduce the rates.

Clearly the dividend which the American people expect from this mighty work of engineering is the enlargement of the Nation's commercial opportunities, the control of facilities which will expand its commerce, "the extension of America's waist line," and the "wedding of the waters" that brings the Pacific coast ports close to those of the Atlantic, and binds the ends of the country together for peace and war. The American Nation was not looking simply for a chance to invest Federal capital at 3 per cent interest, for it can get a better rate than that on farm mortgages.

Maintenance has been paid out of appropriations for construction.—Clearly, the district officer does not mean to be understood that this charge of $1,100,000 is now running against the project, although from the fact that he compares it in paragraph 11 with the earnings from traffic in 1913 would seem to indicate that he did. It may not be fair to take the cost of the project 20 years from now and balance it against the freight traffic two years ago. The fact is, very little of the Government money has been spent, and the maintenance and snagging charge has all been absorbed and included in what has been spent, so that it has all been figured into the construction account. No maintenance charge and snagging have been paid separate from the construction account. Even if they are separately considered, it is further apparent that the growth of the maintenance charge will extend over a long period of years, determined by the rapidity with which the project is completed, and therefore it can not be stated in the gross amount of $1,100,000 and compared with the freight earnings of 1913.

Section 7.

NAVIGATION, RECLAMATION, AND FLOOD PROTECTION ARE INSEPARABLE.

"The benefits derived are represented by the increased facilities for navigation. There are other incidental benefits, such as the protection of lands from erosion and the amelioration of flood conditions, but these have not been recognized as proper objects of governmental expenditure on the Missouri River, and are therefore not considered in the analysis."

While it is true that the Government has been following for some years the theory of improving inland waterways solely for the benefits to navigation, and not for the protection or conservation of riparian lands, yet it has been found that the reclamation of lands is inseparable from the improvement of the channel. The two are so closely united and so absolutely impossible to divorce, that even in the reports of the Army engineers themselves appear repeated references to the effect of the improvements upon riparian lands.

[Extract rom Capt. Schulz's report, H. Doc. No. 1120, p. 12, 60th Cong., 2d sess.]

"The drainage area of the Missouri is approximately 580,000 square miles. The country through which the Missouri flows is mostly one of small rainfall. Its most salient and striking features are the remarkable impetuosity of its current and its

slope, which is considerable for so large a stream. The rapidity of the current and the general instability of the banks cause turbidity, which has won it the title of 'the Big Muddy.' It is the greatest silt carrier in the country. Its influence upon the Mississippi River is most remarkable, and it is its prototype in many features. The subject of its improvement is therefore of the greatest importance to the improvement of the Mississippi."

On page 13 of this report Capt. Schulz gives figures showing that the total amount of sediment carried by the Missouri River annually into the Mississippi River is about 11,000,000,000 cubic feet, equivalent to one square mile 400 feet deep.

[Extract from a report of Capt. Schulz, H. Doc. No. 1120, p. 9, 60th Cong., 2d sess.

"On that part of the river where continuous work was done the results were remarkable. A continuous channel of not less than 6 feet was obtained in a stretch of 45 miles over what was originally the worst part of the river. In a distance of 18 miles near Jefferson City the area of lands recovered was 5,500 acres, and lands protected 12,800 acres. There is hardly a doubt that similar results would have been produced over the entire river."

[Extract from the report of Col. D. W. Lockwood, senior member of the Board of Engineers for Rivers and Harbors, upon the report of Capt. Schulz, H. Doc. No. 1120, p. 59, 60th Cong., 2d sess.]

"In addition to the advantages that would result to navigation and commerce from an improved river, large areas of fertile land would be reclaimed, protected, and made available for cultivation, and the sediment now carried would be reduced in amount, with resulting benefits extending even to the Mississippi River below the mouth of the Missouri."

Statement of Gen. W. L. Marshall, Chief of Engineers.

[H. Doc. No. 1120, p. 3, 60th Cong., 2d sess.]

"In addition to the advantages that would result to navigation and commerce from an improved river, large areas of fertile land would be reclaimed, protected, and made available for cultivation, and the sediment now carried would be reduced in amount with resulting benefits extending even to the Mississippi River below the mouth of the Missouri."

Statement of Judge Richard Field, of Lexington, Mo.

[H. Doc. No. 1287, p. 21, 61st Cong., 3d sess.]

"I understood one of the board to interrogate the gentleman who has just spoken as to whether he spoke to river navigation or whether he spoke to reclamation. Now, it seems to me that the two things are so closely related that they are inseparable. When you do work looking to land reclamation you are thereby improving the river navigation. By the work that is done along the banks to prevent the river from overflowing these farms and confining it to a narrower limit than it otherwise would be confined to, you certainly are improving river navigation. Therefore, I say that the two things go together."

Preliminary report of Inland Waterways Commission.

[Pp. 21-22.]

"Any comprehensive system of improvement of inland waterways will necessarily affect the drainage or reclamation of swamp and overflow lands, which are mainly rich alluvial tracts largely along or near waterways. The construction of dikes and levees or bank protective works and the deepening of channels are often closely connected with means of control both of overflow and of underflow by drainage.

"It is estimated that there are 77,000,000 acres of such land now unproductive, but which, with drainage and protection from overflow, will have an exceptionally high agricultural value. If divided into 40-acre farms, these lands will furnish homes for some 10,000,000 people.

"The annual soil wash in mainland United States is estimated at about 1,000,000,000 tons, of which the greater part is the most valuable portion of the soil; it is carried into the rivers, where it pollutes the waters, necessitates frequent and costly dredging, and reduces the efficiency of works designed to facilitate navigation and afford protection from floods. The direct and indirect losses from this source have not been

measured, but are exceedingly large; and it is desirable that definite determinations be made, with the view of devising means for reducing the loss to the land and preventing the impairment of the streams for purposes of commerce."

Preliminary report of Inland Waterways Commission.

[P. 20.]

Engineering works designed to improve navigation affect favorably the regimen of the streams, including floods and low waters. The annual floods of the United States occasion loss of property reaching many millions of dollars, with considerable loss of life, while the low water of late summer involves large loss in diminished water supply, in reduced power, and in the fouling of streams, with consequent disease and death. It has been claimed that in specific cases the cost of works required both to control floods and meet the needs of commerce would be less than the amount of this loss. It is desirable that more detailed information be collected concerning the effects of floods and low waters and their prevention by engineering works and other devices.

River improvement for every legitimate benefit.—It may well be that the Government, instead of attempting to follow a barren precedent of regarding the improvement of the rivers entirely from the standpoint of navigation, will, in the near future, adopt a general policy of conservation which looks to the improvement of the inland waterways as a scientific whole. Every benefit that can result from such improvement, tending toward the growth in wealth and social condition of the American people, is a legitimate object of such improvement, and time continues to demonstrate the impossibility of separating one from the other.

Local cooperation has taken care of levee construction.—The character of the Missouri River is such that it changes its course very frequently when left in an unimproved and unregulated state and shifts its main channel through the soft, alluvial earth, over a space from 2 to 7 miles wide between the rock bluffs. On the Missouri River there has never been any improvement undertaken by the Government in the way of building levees, or otherwise, for the purpose of flood protection. This fact was emphasized by the special examining board of Army engineers, in speaking of the necessity and propriety of local cooperation. They point out that local cooperation on the Missouri has already gone and is preparing to go to the extent of flood protection. The building of levees entirely at the expense of the local levee districts proceeds as rapidly as the Government permits such work to be done, by establishing and maintaining the channel of the river. It is impossible for the adjoining landowners, however much they may desire to do so, to engage in any effective form of levee protection until the Federal Government has first restrained the stream within a definite channel.

[Extract from report of special report of board of engineers, H. Doc. No. 1287, 61st Cong., 3d sess.]

"It is also considered proper to draw attention to the fact that the public hearing of November 14, 1910, disclosed that the owners of bottom lands along the river were merely awaiting the protection of the banks before beginning the construction of levees on an extensive scale. As soon as the United States has rendered the banks secure local interests will find it possible and profitable to build levees, and the river improvement should be so conducted as to insure that the distance between the levees on opposite banks shall be sufficient to prevent damage to the low-water channel by floods which may have discharges from 750,000 to 900,000 second-feet."

Statement of Gen. W. H. Bixby, Chief of Engineers.

[H. Doc. No. 1287, 61st Cong., 3d sess.]

"It was developed at the public hearing, held November 14, 1910, that the owners of bottom lands along the river were merely awaiting the protection of the banks before beginning the construction of levees on an extensive scale."

Statement of Hon. D. S. Alexander, chairman of House Committee on Rivers and Harbors.

[H. Doc. No. 1287, p. 21, 61st Cong., 3d sess.]

"Moreover, the thorough improvement of this reach of the river would be an advantage not only to commerce, but large areas of land would be protected and reclaimed. This river is one of the most destructive on the globe. The local engineer reports that every change in velocity or direction of current means new erosion and subsequent partial deposit, causing untold loss in value of land and products. He estimates the bottom land threatened, or to be benefited, on this reach at more than

500,000 acres, worth in the neighborhood of $50,000,000, or two and one-half times what the entire improvement is expected to cost. This indicates that cooperation on the part of the local interests may be required, as it has been on the Mississippi below Cairo, and a special board is provided for to reconsider the project, with a view to special consideration of the question of cooperation."

Statement of Gen. W. H. Bixby, Chief of Engineers.

[H. Doc. No. 1287, p. 3, 61st Cong., 3d sess.]

"I concur with the board that the levee construction should be left to the riparian owners and that, as a general rule, other cooperation will be impracticable; but I consider that along city points, or at other special localities where large interests are involved, cooperation in the way of bank protection may properly be required."

Growth of levee districts between Kansas City and mouth.

In 1910, at the hearing before the special board of engineers, the deputy State labor commissioner made the following statement:

"I will say further to the board that I believe we have about 12 levee districts that are in the process of formation along the Missouri River, extending from the city of St. Charles to Kansas City. These levee districts contain probably an average of 4,000 acres each, or about 48,000 or 50,000 acres in round numbers."

By 1913 the number of levee districts between Kansas City and the mouth had increased to 32, the acreage protected was 215,573, and the amount invested $1,449,090.91.

Levee construction must stop if Col. Deakyne's report is approved.

We desire to impress very earnestly upon this board the fact that one of the effects of adopting the Missouri River project by the Federal Government in 1910 and 1912 was to encourage the State of Missouri to a renewed activity along the lines of levee protection. As fast as the Government work progressed and a definite idea could be gained by the landowners of the permanent location of the channel, they have engaged in the formation of local levee districts. The possibility of a continuance of levee building in Missouri depends entirely upon the decision on the continuation of the channel improvements. If channel improvement is abandoned now, the work of levee protection, so well begun by the local landowners, must also be abandoned and the Missouri River left as a menace to the State of Missouri without power either in the State or the landowners to protect themselves from its ravages.

Reclaimed lands contribute to commerce.—But the question of the reclamation of riparian lands is more intimately still connected with commerce. There are in the Missouri bottoms, between Kansas City and the mouth, approximately 500,000 acres of land subject to overflow. Fifty per cent of this land is overflowed so frequently as to be practically worthless. The remaining 50 per cent is subject to periodical overflow, which reduces its value more than one-half, and renders its permanent improvement and occupation by families impossible. If the Government proceeds with the rectification of the channel, the landowners are prepared to proceed with the construction of levees to reclaim all of this land. It will then be subject to cultivation and occupation as homes, with practical safety, except during the rare occasions, two or three times a century, when there are extraordinary floods. The increase in value of this farm land can readily be estimated at the present value of farm land in the same county. It is the richest and most productive farm land in the United States. The surplus production on this 500,000 acres, in the way of agricultural products and live stock, will all be directly tributary to the river, and will add to the traffic. The river will be its nearest, cheapest, and most direct avenue of transportation, and this surplus production can be counted upon to furnish what is so much needed on American streams, the local traffic which is such an important feature of European rivers.

Not only will all the outgoing commodities from this reclaimed region be added to the commercial traffic of the river, but the presence of a large and productive population immediately adjacent to the river will add a consuming power for incoming commodities. The ordinary exchanges of trade will bring into this consuming population another large mass of commodities which will practically double the outgoing traffic. It will be seen, therefore, that the reclamation of adjoining lands is not an entirely separate subject from the protection of the channel for navigation, but, on the contrary, it is a necessary and extremely important element in the commercial value of the improved river.

Statement of Deputy State Labor Commissioner J. H. Nolen.

[H. Doc. No. 1287, p. 53, 61st Cong., 3d sess.]

"Between Kansas City, Mo., and the river's mouth is a large area of the most fertile land in Missouri, one-half of which has probably never been cultivated because of the frequent overflows, but is subject to redemption by use of levees. The other half is cultivated annually, but an average of one crop out of every three is destroyed by floods, and the crops on some of the lowest fields are ruined more frequently. Such flood loss can be prevented in the future by the construction of levees.

"This lowland is capable of producing at least 15,000,000 bushels of grain annually. The proximity of this land to the river makes it convenient for the farmers to deliver their products to the boat landings for transportation to market, and boats should haul all of it. The revenue derived from transporting 50 per cent of this grain, at even a lower rate than is now charged by the railroads, will amount to more than $350,000 annually, and this sum would greatly encourage river traffic when added to their other receipts."

Sections 8, 9, and 10.

PRESENT AND PROSPECTIVE COMMERCE.

The commerce to be considered is *present* and *prospective*, and the advantages the commerce will obtain from the improvement are the actual saving in freight charges by the use of the river and the effect on railroad freight rates produced by the possibility of water transportation.

This statement omits an important element in the advantage of an improved river, which is the increase of facilities for transportation. An increase of transportation facilities in any productive territory has universally resulted in an increase of traffic. Traffic springs up along the line of a channel of commerce because the very presence of transportation facilities invites the location of new enterprises, the enlargement of existing enterprises, and the increased production of the territory. This is due to the fact that many natural resources become profitable when they are adjacent to convenient means of transportation when they could not be developed under other circumstances and to the further fact that cheap and convenient methods of transportation tend to an increase of both the production and consumption of the territory served. It is not necessary to enlarge upon this idea, as it is fundamental in the construction of all new transportation lines.

The term "*present* commerce" is all inclusive. It must embrace all traffic flowing from the Missouri River section of States; the products of commerce and industry of cities in said section, all of which is tributary to Missouri River transportation, but little of which has thus far actually moved upon the river. The term embraces all of the traffic moving east and west in this territory, served by the Missouri River and not alone the business which the river actually obtained in the year 1913, nor since. We call attention to the exhibits showing the actual traffic of the rail arriers for the year 1914 eastbound from and via Kansas City and the other Missouri River cities, embracing only the business originating in those cities and in the States of Kansas and Nebraska. The Kansas City figures include the tonnage from Kansas City proper and from the State of Kansas and the southern counties in Nebraska. This is the *present* commerce stated concretely and most of it must be taken into account in your computations, at least all that could be practically handled by water transportation upon the improved river as contemplated.

The *prospective* commerce must be built up upon an estimation based upon the actual movement via the railroads as before referred to for the last calendar year in eastward direction, and the westbound movement for the same period based upon previous percentage relationship as shown in tables covering actual rail tonnage east and west in 1906 (the last year composite figures westbound were compiled by carriers), allowing for the enormous industrial development and population growth of this territory in the meantime. This has had a marked tendency to increase the consumption of eastern manufactures and semimanufactured raw materials, which it may fairly be inferred might increase the rate of growth of westbound traffic based upon the comparative production of this section in agricultural products, which constitutes a large portion of the eastbound traffic.

Importance to agricultural regions west of the Missouri River.—The great agricultural region extending from the Missouri River to the Rocky Mountains is tributary to that stream in all matters affecting transportation rates, because its surplus products move to market in a general eastward direction, and principally through the river crossings. Surplus agricultural products seeking a market must inevitably face the

strongest competition; competition which is world-wide in its operation. Such surplus is worth to its producer what it will sell for in the greatest central market of the world less the cost of transportation thither, allowing for the difference of quality and grades. Broadly speaking, surplus agriculture products have no value until they reach the seaboard and enter into the commerce of the world. By surplus products is meant, of course, the amount produced beyond the necessities of local consumption, and as long as a locality produces a surplus the value of that surplus in the foreign market is reflected even in the value of the amount consumed at home. A bushel of wheat produced in Kansas, Oklahoma, or Nebraska comes in competition with the wheat of Siberia, Manchuria, India, Australia, South Africa, Russia, and the Balkan States, as well as with the wheat of Canada and Argentina.

Without entering into a discussion as to whether the producer or consumer ultimately pays the cost of transportation it may be said with truth that as to surplus agricultural products designed for export, every dollar paid for transportation to the seaboard is a dollar out of the pocket of the producer and lessens the net return on his product. Every dollar saved in the transportation to the seaboard is a dollar remaining in the pocket of the producer which adds to local wealth and enters into all the channels of retail trade at the point of production. The great grain States of the Missouri Valley are confronted with the one vital and ever present problem of transportation, and may the time never come when they are not confronted with this problem, for when that time comes it will mean that they no longer have a surplus of commodities to sell, and the balance of trade has turned against them. Both in the interests of the producer and in the interest of the consuming public every legitimate effort should be made to increase the facilities and cheapen the cost of transportation, and the solution of one element of the problem is but an advanced step toward the solution of others.

It is beyond dispute that the growth of waterborne traffic on the Great Lakes and the improvements to navigation provided by the Federal Government, including the locks at Saulte Ste. Marie, have added to the value of every bushel of grain produced in the great Northwest. These improvements have made the cultivation of grain profitable, advanced the value of farm land, and tended to the rapid settlement of the country. With this rapid settlement has come the increase of consuming power that provides an incoming traffic of equal value. These advantages have extended far up into Canada, hundreds of miles north of the American border. The farmers of the Missouri Valley and the Southwest are entitled to an equally earnest attempt on the part of the Federal Government to develop their natural means of communications, and to improve all the channels of commerce which nature has provided.

The Missouri River brings the advantage of water competition farther into the great grain belt of the country than any other channel. Its improvement is a permanent addition to the transportation facilities of the trans-Mississippi territory and will, unless it proves wholly impossible of successful navigation, increase the value of farm lands and the value of farm products and the prosperity of inland towns in every section of its valley. The beneficial results are not confined to river cities, but are general in their operation. The wheat of Canada and Argentina will seek the same market as the wheat of Kansas and the wheat of Oklahoma. It is a contest of markets, and in this contest the trump card is "Preparedness." We must command the world's trade, not only by the superiority of our products, but by the cheapness and facilities of getting them to market.

Section 11.

ACTUAL RIVER TRAFFIC NOT THE MEASURE OF SAVING IN FREIGHT CHARGES.

"The Kansas City Missouri River Navigation Co., the only through line on the river operating between Kansas City and St. Louis, charges 80 per cent of the railroad freight rates. Assuming this to be the relation between the rail and water rates for the entire traffic, the saving to shippers by the use of the river in 1913 was about $10,000. It is evident that this saving is entirely inadequate to warrant the serious consideration of an expenditure by the Government of $1,100,000 per year for interest and maintenance."

It is not the actual saving to shippers upon the small amount of Missouri River commerce in the year 1913 which can be taken as a test of the continuation of the present improvement project. Any comprehensive movement of river traffic will unquestionably have an influence upon the rates of the rail carriers, and any reductions made in the rail rates would, of course, extend to 100 per cent of the traffic. Prior to the opening of the Panama Canal the movement westbound via the sea was confined wholly to traffic originating in Atlantic seaboard territory designated as

group A in the railroad tariffs, yet the influence of the rates from that group bore directly upon all of the traffic originating in Buffalo-Pittsburgh territory and west to the Rocky Mountains, the rates being blanketed from all territory east of the Rocky Mountains upon business to the Pacific coast. Prior to the opening of the canal the rail carriers obtained a little less than one-third of the tonnage from group A territory, but their rates upon this comparatively small tonnage, competitive with the sea routes, set the maximum rates for the entire rail tonnage originating east of the Rocky Mountains. All of this tonnage west of Buffalo and Pittsburgh was entirely outside of the zone of sea competition. (Carriers' Brief, p. 23, I. C. C. Fourth Section Applications 205, 305, et al., 32 I. C. C. 611.) So, also, the reduced rates as already made and proposed in Exhibits 45 and 46 from New York territory (group A) to Pacific coast terminals by the rail carriers in competition with water lines since the Panama Canal was opened apply equally to practically all of the rail tonnage originating at and east of the Rocky Mountains.

Rates between the Missouri River and territory east of the Illinois-Indiana State line are the sum of the separate rates to and from Mississippi River. Rates between points west, including the intermountain region, and southwest of the Missouri River and territory east of the Illinois-Indiana State line are less than the sums of the rates to and from the Missouri River, but break or base upon St. Louis. An important exception is the rates on farm products to the east and southeast from Kansas and southern Nebraska, which make on Kansas City combination. A relationship has been established by the Interstate Commerce Commission (State of Kansas case, 27 I. C. C., 673) in the rates from Mississippi River and Chicago to Kansas points and the Missouri River. Hence the Missouri River is the natural transportation link in the predominant east-and-west commerce of the country and occupies a peculiar geographic advantage in traversing the precise territory where the rates break.

While special conditions resulting from competitive forces have been recognized by the Interstate Commerce Commission as justifying lower rates than might otherwise be reasonable in special instances, nevertheless it is well settled that the act to regulate commerce still imposes that in meeting these conditions, railroads may not discriminate *unduly* as between competitive and noncompetitive points; no undue disparity of rates may be operated.

"It is well established that water competition at a given point may render the circumstances substantially dissimilar and justify a discrimination against points where such competition is not controlling. It is to be observed, however, that such dissimilarity of circumstances does not relieve the carrier altogether from the restraint of the third section." (Planters Gin & Compress Co. *v.* Y. & M. V. R. R. Co., 16 I. C. C., 131–133.)

"If, therefore, water competition at a given point compels a carrier to discriminate in rates against a point not so favorably situated, *the amount of the discrimination must not be greater than the dissimilarity of circumstances demand.*" (Italics ours.)

(Martin *v.* L. & N. R. R. Co., 9 I. C. C., 581.

See also Texarkana Freight Bureau *v.* St. L., I. M. & S. Ry. Co. 28 I. C. C., 569.)

However, sight should not be lost just here of the radical reductions which have been made in the intermountain territory rates by the Interstate Commerce Commission in recent years in the relationship of those rates to the coast-point rates and of the particular attention paid by the commission to the intermountain country in the most recent fourth-section cases involving rail rates to the coast. And so we insist that any lower rates resulting from a thorough-going use of the river between only Kansas City and St. Louis will not be limited to the purely local commerce, but must necessarily be reflected in rates to and from the great producing and consuming contiguous territory.

The complete Missouri River improvement project may not be gauged as to benefits in lower transportation charges to the shipping and consuming public solely and alone with reference to the saving upon the commerce transported on the river, much as it may grow to be. The consideration must extend to and embrace the resultant lower charges upon 100 per cent of the traffic available to effective river transportation whether carried by river or rail, and furthermore, must include some regard for the saving upon all such traffic coming from and going to the inland territory west and southwest of the Missouri River under the relatively reasonable and nondiscriminatory adjustment of rates which the Interstate Commerce Commission has said shall apply as between the water-competitive points and contiguous nonwater-competitive territory.

That materially lower rates via rail and consequent saving to the shipping public in transportation charges upon an immense traffic will inevitably follow the comprehensive use of the fully improved Missouri River, we point to the results in the Pacific coast rail rates since the opening of the Panama Canal.

Growing evidence that Missouri River navigation will soon effect lower freight charges.—It may be further emphasized that the $10,000 saving in freight rates in 1913 is figured only on the traffic actually moving by river and leaves out of consideration the probable effect upon competitive rail rates.

The district officer states that the water rates are 20 per cent of the railroad freight rates and assumes this to be the relation between rail and water rates for the entire traffic. By the words "entire traffic," however, he seems to mean the freight moving by river in 1913 on the partially improved stream and does not extend the principle to what is really the entire traffic, to wit, the total tonnage now carried by rail and river, but which could move by river in case rates and conditions were inviting. If the river is once established as a permanent channel of traffic so that the railroads must reckon with it, not as a mere experiment to be abandoned at any moment, but as a permanent factor in the transportation business in the Missouri Valley, the rates on all traffic moving through the Kansas City gateway will be affected by the reduction in freight rates. It is only a question of the improvement in the river progressing to the proper point and the growing use of the river based thereon to bring about this result.

As to whether the river traffic had in 1913, or has now, reached a point where its influence can be felt in competitive rail rates, there is a wide difference of opinion between the shippers on the one hand and the railroads on the other. The shippers believe that, viewed from the standpoint of experience in the practical effect of water competition on the Great Lakes with the rail haul from Chicago to New York, a very substantial reduction of rates can be made between Kansas City and St. Louis. This will follow the increase in the volume of high-grade tonnage carried by river. The critical period is now approaching, and at this crisis it is seriously proposed to abandon the improvement of the river, put the boat lines out of business, visit with discouragement and loss those who have invested their labor and capital in building up river traffic, and free the railroads from competition.

On the other hand, the railroads contend that the river traffic has already had and now has a very potent effect on rail rates; that the rates are now too low and that, with the elimination of water competition these rates will be promptly and substantially raised.

Both parties regard the presence or absence of water competition an important factor in the rate situation. We call attention to some statements and admissions of railroad men given in testimony before the Interstate Commerce Commission. These show that not only were the railroads watching the boats very closely, but actually kept track of the movement of every boat and the cargo it contained.

The railroads' expressed views upon and evident if not expressed fears of Missouri River navigation is strongly confirmatory of the wisdom of this board's previous recommendations of permanent improvement, and as a cogent reason for the early completion of the present project.

"*Abstract of testimony relied upon by the respondent railroads in I. C. C. dockets Nos. 6119 et al.*

"The rates from the Gulf to Kansas City and other Missouri River points are greatly depressed.

"J. L. Sheppard, for respondents, testified as follows:

"I am assistant general freight agent of Illinois Central Railroad Co. and Yazoo & Mississippi Valley Railroad Co., headquarters at Memphis, Tenn. Have been with those roads for 18 years and am familiar with rate adjustment as affecting those two companies. While we serve neither Kansas City nor territory west thereof, we do have through routes and rates practically to all points in Kansas, the traffic being turned over to the Frisco, Rock Island, or Missouri Pacific at Memphis, or to such lines as the Burlington and Wabash at East St. Louis. I am referring to traffic from New Orleans. (Rec., 366–368.)

"The rates between New Orleans and Kansas City are not normal rates, but are depressed by water competition on the Missouri and Mississippi Rivers. (Rec., 370.)

"The Illinois Central and Y. & M. V., in connection with their applications for relief under section 4 of the act, have advised the commission fully with respect to the conditions surrounding the handling of traffic from St. Louis, Memphis, and other Mississippi River points to New Orleans. The lines which operate from Missouri River points, including Kansas City, also have explained to the commission the effect of water competitive conditions which cause the present rate adjustment from those points. And what has been said to the commission with respect to the southbound rates applies also to the northbound rates. (Rec., 370.)

"At this time there are water transportation companies offering to transport the commodities involved in these cases from New Orleans to Kansas City via the Mississippi and Missouri Rivers. I refer to the Atlas Transportation Co. and the Missouri River Navigation Co., both of which are water carriers. I have copy of their tariff, effective July 23, 1914, Atlas Transportation No. G. F. O. 19, K. C. Mo. R. N. Co., G. F. O. No. 2, which names through rates between New Orleans and Kansas City. This tariff shows rate on denatured alcohol of 26.4 cents as against the rail rate of 33 cents; coffee, 28 cents via water as against 35 cents via rail; molasses, 24 cents via water as against 30 cents via rail; sugar, 25.6 cents via water as against 32 cents via rail; and other rates are shown in this tariff.

"On the title page of tariff just referred to it is shown that marine insurance is included. (Rec., 372.)

"There has been a movement of traffic under the water tariff referred to from New Orleans to Kansas City. During the last 90 days these boat lines transported 400 barrels of molasses and 250 sacks of coffee between those points; also sugar and miscellaneous freight, the latter amounting to about three carloads. (Rec., 373.)

"But for the water route from New Orleans to Kansas City the rail rates on the commodities complained of would be a great deal higher than they are at present. If the present rates to Kansas City should be raised to a reasonable basis, thus ignoring the river navigation, it is my opinion that the same conditions would obtain as existed prior to the present low rail rates. The traffic would be handled direct between New Orleans and Missouri River points by boats or barges, or by boats or barges to St. Louis and thence via rail to destination; and this would mean that the initial lines at New Orleans would be deprived of handling this traffic. My best judgment is that an increase of the rail rates to Missouri River would divert the traffic to the water routes. (Rec., 374.)

"Referring to sugar, there is competition between New Orleans and New York in the marketing of sugar in Kansas City. This fact was stated yesterday by Mr. Wood, a witness for complainants. The low rates from New Orleans were compelled by competition with boats and barges on the Mississippi River to St. Louis and thence via rail to Kansas City. It was clearly shown in Lehman-Higginson Grocer Co. *v.* A. T. & S. F. Ry. Co. et al., 10 I. C. C., Rep., 460, that sugar is actually transported by water from New Orleans to St. Louis and thence via rail to Kansas City, and that this competition fixes the low rates to Kansas City. The Mississippi River controls the rate from New Orleans to St. Louis, and establishes a differential, New Orleans under New York City, which the New York shipper has to equalize when marketing his products in this territory. (Rec., 376.)

"The tariff showing rates via the water route from New Orleans to Kansas City was received in evidence, and marked 'Defendants' Exhibit 1, Witness Sheppard.' The pencil figures shown thereon indicate the rail rates. This tariff also names class rates from New Orleans to Kansas City. (Rec., 380.)

"The adjustment on coffee is similar to that on sugar. The competitive conditions between New York and New Orleans and the water routes from New Orleans to Kansas City, fix a differential of 4 cents from New Orleans under the rail and lake rate from New York to Kansas City. (Rec., 380.)

"The water tariff mentioned by me applies to Kansas City and not Omaha. But there is water competition from New Orleans to Omaha, the river being navigable between those points. While I have no knowledge of a boat line to Omaha, the river nevertheless is navigable. (Rec., 406.)

"B. F. E. Marsh (of the Santa Fe), for respondents, testified as follows:

"As to the water influence on sugar rates from New Orleans to St. Louis, and departures from the fourth section in that regard, I call attention to the recent decision of the commission entitled Fourth Section Applications Nos. 349, 675, 677, 1766, and 8835, decided July 21, 1913, and published on page 461 of the Traffic World of August 29, 1914. In that case the commission investigated the rates on sugar from New Orleans to Kansas City and points in Kansas with respect to departures from section 4 of the act. Among other things the commission said:

" 'The rates to Cairo, Ill., St. Louis and Hannibal, Mo., and Quincy, Ill., have been induced by competition on the Mississippi River. * * * The rate to Helena, Ark., and Memphis, Tenn., is 12 cents and to Cairo, as stated, is 17 cents. The rates to these Mississippi River points have been strongly influenced by competition on the Mississippi River. The rate to Memphis is 12 cents and to St. Louis 17 cents, and these rates are materially less than to intermediate points, the justification of this practice being water competition on the Mississippi River. * * * In our opinion these carriers should be authorized to continue lower rates to these Mississippi River points than to intermediate points, provided the rate to intermediate points south of Memphis does not exceed 24 cents.' (Rec., 428.)

"The Santa Fe receives a periodical report about once a week showing the tonnage handled to and from Kansas City by the Kansas City Missouri River Navigation Co. via the Missouri River. These reports would include traffic moving via St. Louis to and from New Orleans. I have with me the last three reports, dated September 11, September 25, and October 30, 1914, which are herewith filed in evidence as Defendants' Exhibit No. 11, Witness Marsh." (Rec., 452–456.)

Witness Sheppard testified that during the period of 90 days preceding the hearing 400 barrels of molasses and 250 sacks of sugar had moved via water from New Orleans to Kansas City, in addition to miscellaneous freight, the latter amounting to about 3 carloads. Other evidence along the same line was offered by Witness Marsh in the form of a periodical report received by the Santa Fe, showing tonnage handled to and from Kansas City by the Kansas City Missouri River Navigation Co. These reports were dated September 11, September 25, and October 30, 1914, and for convenience are reproduced below:

Marsh Exhibit 11.

[Extracts from traffic reports of General Agent Roe, of Kansas City, to General Freight Agent Koontz.]

Report of September 11, 1914.

"Belt Line Warehouse Co. No. 1, 45 tons whisky from S. J. Greenbaum, seventh district, Kentucky.

"McPike Drug Co., 38 tons bottles, Obear Nester, St. Louis.

"Faeth Iron Co., 21 tons wagon wood, origin unknown.

"J. W. Jenkins Sons Music Co., 19 tons Victrolas, Victor Talking Machine Co., Camden, N. J.

"J. W. Jenkins Sons, 11 tons pianos, Steinway & Sons, New York.

"J. W. Jenkins Sons, 12 tons pianos, Vose & Sons, Boston.

"Jones Store Co., 8 tons dry goods, origin unknown.

"Emery, Bird, Thayer Dry Goods Co., 9 tons dry goods, origin unknown.

"Montgomery Ward Co., 11 tons dry goods, Durham Hosiery Mills, Durham, N. C.

"Montgomery Ward & Co., 13 tons cotton bats, origin unknown

"Townley Metal & Hardware Co., 6 tons tin tubs, Standard Stamping Co., St. Louis, Mo.

"Smith, McCord, Townsend Dry Goods Co., 14 tons dry goods, E. M. Townsend Co., New York.

"Smith, McCord, Townsend Dry Goods Co., 7 tons dry goods, Towner & Mayer, Norristown, Pa.

"Smith, McCord, Townsend Dry Goods Co., 9 tons dry goods, Lawrence & Co., Boston, Mass.

"Smith, McCord, Townsend Dry Goods Co., 5 tons cotton bats, J. Broadbent & Sons, Unionville, Conn.

"Burnham, Munger, Root Dry Goods Co., 8 tons dry goods, Alder Underwear & Hosiery Manufacturing Co., Cincinnati, Ohio.

"Burnham, Munger, Root Dry Goods Co., 7 tons, McGarvey & Co., Baltimore.

"Burnham, Munger, Root Dry Goods Co., 11 tons cotton flannels, Amory Browne Co., New York.

"Burnham, Munger, Root Dry Goods Co., 5 tons dry goods, origin unknown.

"Maxwell, McClure, Fitts Dry Goods Co., 8 tons dry goods, High Rock Knitting Co., Philmont, N. J.

"The steamer *A. M. Scott*, towing the barge *Gamma*, sailed for St. Louis 8 a. m. September 8, loaded with one car cement for a river town, and it is reported will pick up grain shipment at way landing for St. Louis.

"Steamer *Advance*, towing the barge *Beta*, arrived at Kansas City 7.45 a. m. September 3, contained 246 tons of merchandise for the following firms:

"Gate City Transfer Co., 21 tons bottles, Marion Flint Glass Co., Marion, Ind.

"Kansas City Breweries Co., 23 tons corks and seals, Crown Cork & Seal Co., Baltimore, Md.

"Bemis Bro. Bag Co., 24 tons bags, Bemis Bag Co., St. Louis.

"Ridenour Baker Grocery Co., 25 tons sulphur, Hygienic Chemical Co., New York.

"Faeth Iron Co., 23 tons wagon wood, origin unknown.

"American Sash & Door Co., 21 tons building felt, origin unknown.

"Barteldes Seed Co., 38 tons seed, origin unknown.

"Belt Line Warehouse Co. No. 1, 20 tons whisky, S. J. Greenbaum, seventh district, Kentucky.

"Montgomery Ward & Co., 9 tons dry goods, Durham Hosiery Mills, Durham, N. C.

"Emery Bird Thayer Dry Goods Co., 7 tons dry goods, origin unknown.

"Webb Freyschlag Merchandise Co., 6 tons dry goods, origin unknown.

"J. W. Jenkins Sons Music Co., 12 tons Victrolas, Victor Talking Machine Co., Camden, N. J.

"Smith, McCord, Townsend Gry Goods Co., 10 tons dry goods, Piqua Hosiery Co., Piqua, Ohio.

"Smith, McCord, Townsend Dry Goods Co., 7 tons dry goods, Adler Hosiery & Underwear Co., Cincinnati, Ohio.

"The steamer *Advance* towing the barge *Beta* sailed for St. Louis 3.30 p. m., September 5, loaded with two cars flour and 3,500 pounds merchandise for river towns.

"Steamer *Chester* is still here being held for repairs on boiler."

REPORT SEPTEMBER 25, 1914.

"Kansas City-Missouri River Navigation Co.:

"The steamer *Advance* towing the barge *Delta* which arrived here 7 p. m. September 16 contained the following merchandise for Kansas City firms:

"Campbell Glass & Paint Co., 39 tons glass, from American Window Glass Co., Pittsburgh, Pa.

"Townley Metal & Hardware Co., 31 tons nails, American Steel & Wire Co., Pittsburgh, Pa.

"Wm. Volker & Co., 28 tons linoleum, Armstrong & Co., Philadelphia, Pa.

"J. W. Jenkins Sons Music Co., 12 tons pianos, Steinway & Sons, New York, N. Y.

"Richards & Conover Hardware Co., 27 tons horseshoes, Jas. A. Burden Horse Shoe Co., Troy, N. Y.

"McPike Drug Co., 8 tons bottles, origin unknown.

"Smith, McCord, Townsend Dry Goods Co., 15 tons dry goods, E. M. Townsend & Co., New York.

"Smith, McCord, Townsend Dry Goods Co., 8 tons dry goods, Towner & Mayer, Norristown, Pa.

"Smith, McCord, Townsend Dry Goods Co., 19 tons, Lawrence & Co., Boston, Mass.

"Burnham Munger Root Dry Goods Co., 12 tons dry goods, Adler Underwear & Hosiery Co., Cincinnati, Ohio; 16 tons cotton flannels, Amory-Brown & Co., New York.

"Webb Freyschlag Merchandise Co., 3 tons dry goods, origin unknown.

"Steamer *Advance* towing the barge *Delta* sailed for St. Louis at 2 p. m. September 19, loaded with one car flour and 5,000 pounds merchandise for river towns.

"The *A. M Scott* which arrived St. Louis on September 9 is still there for repairs, reported will be in running condition first of the week."

REPORT OCTOBER 30, 1914.

"Kansas City-Missouri River Navigation Co.:

"The steamer *Advance* towing the barge *Delta* sailed from St. Louis October 20 and reached Kansas City October 27 with 197 tons miscellaneous merchandise for the following concerns:

"Wm. Volker & Co., 40 tons door mats, from Panslo Mills, Trenton, N. J.; 50 tons steel rods, origin unknown.

"J. W. Jenkins Sons Music Co., 12 tons pianos, Steinway & Sons, New York, N. Y.; 10 tons pianos, Vose & Sons, Boston.

"Townley Metal Co., 25 tons nails, American Steel & Wire Co., Pittsburgh, Pa.

"Richards & Conover, 28 tons nails, American Steel & Wire Co., Pittsburgh, Pa.

"Webb Freyschlag Merchandise Co., 3 tons dry goods, origin unknown.

"Burnham Munger Root Dry Goods Co., 10 tons dry goods, E. M. Townsend & Co., New York; 7 tons dry goods, Towner & Mayer, Norristown, Pa.

"Smith, McCord, Townsend Dry Goods Co., 12 tons dry goods, Lawrence & Co., Boston, Mass.

"The steamer *Advance* towing the barge *Epsilon* sailed for St. Louis October 29 with three cars flour and one car of meal for St. Louis, also about 3,000 pounds of merchandise for river towns."

"C. C. P. Rausch (of the Missouri Pacific) for respondents, testified as follows:

"Referring to the depressed rates from New Orleans to Kansas City I desire to offer my exhibit No. 3, consisting of 35 pages. This exhibit affords a brief history of water transportation on the Mississippi and Missouri Rivers, taken from decisions of this commission, the Encyclopædia Britannica, reports prepared by boards of trade at St. Louis, Memphis, and New Orleans, and Government data as indicated in the exhibit. (Rec. adjourned hearing, 188.)

"From my knowledge of the situation and because of the proximity of our railroads to all Mississippi and Missouri River points, I wish to emphasize the fact that the competition via these rivers has long had the effect of depressing the rates. Had it not been for those rivers there is no question at all but that the rates to Memphis, St. Louis, Kansas City, and Omaha would be upon a higher plane. (Rec. adjourned hearing, 200.)

"I have been on at least one or two of the boats operating on the Missouri River, and have received various reports of their tonnage. The consists were very voluminous and covered a vast quantity of commodities. I have passed along the Missouri River at least a dozen times in the last two or three years, and I never passed in the daytime without seeing one of those boats. The boats ply regularly between St. Louis and Kansas City. (Rec. adjourned hearing, 245.)

"*Rausch's Exhibit No. 27.*

"Steamer *Scott* towing barge *Gamma* from St. Louis arrived Kansas City September 5, 1914:

Commodity.	Tons.	Commodity.	Tons.
Merchandise	267	Tin tubs	6
Whisky	45	Dry goods	14
Bottles	32	Do	7
Wagon wood	31	Do	9
Victrolas	19	Do	5
Pianos	12	Do	8
Dry goods	8	Do	7
Do	9	Do	11
Do	11	Do	5
Cotton bats	13	Do	8

"*Rausch's Exhibit No. 28.*

"Steamer *Advance* towing barge *Beta* from St. Louis arrived Kansas City September 3, 1914:

Commodity.	Tons.	Commodity.	Tons.
Merchandise	246	Whisky	20
Bottles	21	Dry goods	9
Corks and seals	23	Do	7
Bags	24	Do	6
Sulphur	25	Victrolas	12
Wagon wood	23	Dry goods	10
Building felt	21	Do	7
Seed	38		

"The tariffs show lower rates from New Orleans to Omaha than from New Orleans to these Kansas points. To Omaha the rates are controlled by the carriers east of the Mississippi and Missouri Rivers, which do not serve interior Kansas. It goes very largely to a matter of rail competition and keeping Kansas City and Omaha upon a parity from St. Paul, Chicago, Peoria, and the Mississippi River. On all Central Freight Association and eastern trunk line traffic the rates are practically on a parity to Omaha and Kansas City, and coming from New Orleans the Illinois Central serves both Omaha and Sioux City, but has no interest in the lower Missouri River points. Then there are other lines serving Omaha from the East which connect with lines from New Orleans, such as the Chicago & North Western, and those lines see fit to keep Omaha on a relative basis with Kansas City. (Rec. adjourned hearing, 293.)

"Omaha is on the Missouri River, and there is at least potential water competition. I know that a boat left Kansas City about two weeks ago for Omaha, and it was very heavily laden. In the Concordia case I read into the record what the tonnage consisted of. (Rec. adjourned hearing, 295.)

"The rates to Sioux City are similar to those to Kansas City and Omaha, being constructed on a differential basis. The Illinois Central dominates that situation, aiming to keep Sioux City on a parity from New Orleans with the other Missouri River points. (Rec. adjourned hearing, 296.)

"From Chicago, St. Louis, etc., the rates to Kansas City and Omaha have been the same for years. From Chicago the scale is 80 cents, first class, and from St. Louis 60 cents, first class. All those lines compete for the traffic and naturally have the same rates. (Rec. adjourned hearing, 303.)

"What I have said regarding the sugar situation from New Orleans to St. Louis, Kansas City, and points in Kansas applies with equal force to the rates on coffee. There is the competition via river and intense competition from the Atlantic seaboard. (Rec., 428.)

"It has been shown that the rates from New Orleans to Memphis, St. Louis, and Kansas City are controlled by water competition, and that the rates to eastern Kansas points are made with relation thereto, grading higher in a westerly direction. It follows, therefore, that with those lines extending in a westerly and northwesterly direction the rates grade naturally; but with a line like the Santa Fe entering Kansas from the south this can not be the case. Its line extending in a northerly and easterly direction necessarily must pass through higher into lower rated territory, and it therefore should be granted relief from section 4. (Rec. adjourned hearing, 59.)

"*Rausch Exhibit 26.*

"From stenographer's minutes before the Interstate Commerce Commission. Docket No. I. & S. 545, in matter of investigation and suspension of trap or ferry car service charges at Kansas City, Mo., March 22, 1915 (p. 751):

"James I. Sweeney, traffic manager, Smith, McCord, Townsend Dry Goods Co., Kansas City, Mo., was called as a witness and, having been duly sworn, testified as follows (p. 763):

"Mr. SWEENEY. We handled last year inbound cars made up at points of origin other than Kansas City, 382.

"Mr. BURCHMORE. Are the conditions with you with respect to this inbound traffic from the east and southeast substantially similar to those described by the other gentlemen? (p. 764).

"Mr. SWEENEY. Excepting we seem to have used—naturally, we did use some fewer cars on account of the fact that almost 200 of our cars moved on the Missouri River (p. 772).

"Mr. WRIGHT. I understand that those 200 cars, or 2,000,000 pounds, moved via the Missouri River into Kansas City last year?

"Mr. SWEENEY. Yes, sir.

"Mr. WRIGHT. Can you state as to whether or not any other concerns are receiving freight by boat?

"Mr. SWEENEY. I can state that our business was possibly 10 per cent of their volume. Maybe a little more. I don't think any more.

"Mr. WRIGHT. You received 25 per cent of your business by boat? (p. 773).

"Mr. SWEENEY. Approximately.

"*Rausch Exhibit 25.*

"Interstate Commerce Commission. No. 7002. Kansas City Missouri River Navigation Co. *v.* Chesapeake & Ohio Railway Co., et al. Decided May 11, 1915 (34 I. C. C., 67).

"The navigation company began operations in 1911, starting with one boat, since which time it has materially increased its equipment and now has one steam packet and passenger steamer, one motor boat, two towboats, and eight steel-hull cargo barges. The amount of capital stock issued is $1,202,000, of which $2,000 is common, divided among the directors, and $1,200,000 preferred, divided among more than 4,000 shareholders who are citizens of Kansas City, Mo.-Kans. Of the preferred stock, all of which appears to have been subscribed, there remained as of July 1, 1914, $208,016.25 in unpaid subscriptions, the paid-in subscriptions amounting to $991,983.76. A statement of complainant's assets and liabilities as of the same date shows, among other things, an investment in "floating equipment" of $427,291.44; terminals at East St. Louis, $31,012.45; and a cash fund of $380,117.70.

"The navigation company has a modern ironclad terminal warehouse at East St. Louis fully equipped with improved and economical freight-handling devices, platforms, and other facilities. At Gasconade, Mo., it owns a machine shop and shipyard, with 30 acres of ground. At Kansas City it also has on leased ground an office and a machine shop fully equipped for the repair of vessels. The terminal at Kansas City consists of a modern warehouse owned by the municipality and leased to the navigation company upon a tonnage basis.

"The navigation company engages in the transportation of all classes of freight between Kansas City and East St. Louis and intermediate points.

"In this case cognizance was taken by the commission of the Kansas City Missouri River Navigation Co. as a water line between Kansas City and St. Louis. Consideration was given to the financial status of this line, its equipment and facilities, terminals, etc., and it was held that the rail lines should be required to establish in connection with this water route joint rates on grain products destined to Norfolk and Newport News, Va., for export. (Italics ours.)

"[Extract from the Annual Report of the Chief of Engineers to the Secretary of War. War Department, office of the Chief of Engineers, Washington, Oct. 5, 1914. Improvement of rivers and harbors in the Kansas City, Mo., district.]

Page 956: "The Missouri has been navigated by steamboats since 1819, when the first boat went to Council Bluffs. The first boat went to the mouth of the Yellowstone in 1832, and to the head of navigation, Fort Benton, Mont., in 1859.

Page 958: "The effect of the improvement has been to equalize and keep down freight rates, the actual river rates being about 80 per cent of the railroad rates.

"The river formerly carried an active commerce, which was afterwards diverted to other routes. This commerce now shows signs of reviving.

"Through commerce from Kansas City to the mouth was renewed during the season of 1908.

"Now taking the situation on the Missouri River at the present time, the Kansas City Missouri River Navigation Co. was organized a little more than two years ago by the business interests of Kansas City. A fund of upward of $1,000,000 was subscribed by the citizens of Kansas City. The Navigation Co. was incorporated under the State laws of Missouri with the capital of $1,200,000. Mr. Walter S. Dickey, of the Dickey Clay Manufacturing Co., was elected president; Mr. Arch Mackey was elected secretary. We understand the company have purchased three towboats, known as the *Chester*, *Scott*, and *Advance;* also three steel barges known as the *Endeavor*, *Alpha*, and *Beta*, with a capacity of 1,500 tons. On the basis of an average car, say, 40,000 pounds or 20 tons, this would be equivalent to 60 to 75 freight cars. The *Delaware* is 700 tons capacity, or approximately 35 cars; the *Handy* is 300 tons capacity, or about 15 cars, making a total average of about 130 cars.

"The *Beta* reached Kansas City a couple of weeks ago in tow of the *Scott*, which returned to St. Louis and will arrive in Kansas City about June 11, or 12, that is, about this time, towing the barge *Endeavor*, which we were advised has a cargo larger than ever brought into Kansas City heretofore. We also understand this cargo consists very largely of high-class merchandise. We endeavored to secure a copy of the tariff of the Kansas City Missouri River Navigation Co., but were told by their general freight agent that they had not as yet issued one, but that their rates generally were and would be about 80 per cent of all the rail rates.

"Mr. HICKEY. Between what points are they transporting property?

"Mr. RAUSCH. Between Kansas City and St. Louis. The present rates via the rail lines are 60, 45, 35, 27, 22. Eighty per cent of these rates would be 48, 36, 28, 21.6, 17.6, respectively.

"In investigating this matter I find that the Kansas City Missouri Navigation Co. leased the Wiggins Ferry Incline No. 2, I think is the number, on the east side of the river at St. Louis; in other words, on the East St. Louis side, about June a year ago, thus affording them ample facilities for the handling of all classes of traffic at East St. Louis.

"Mr. HICKEY. What facilities have they at St. Louis?

"Mr. RAUSCH. As we understand it, their main facilities will be at East St. Louis. The object of that no doubt being to get the traffic from the large lines that entered East St. Louis. Nearly all the lines coming from the east, such as the Pennsylvania, Baltimore & Ohio, all of the Chicago lines, the Illinois Central operating in the south, the Louisville & Nashville, the Southern Railway, the Mobile & Ohio, have terminals at East St. Louis. The west side lines are confined to the Missouri Pacific, Missouri, Kansas & Texas, Frisco and Wabash, otherwise there would be a transfer across.

"Mr. HICKEY. That indicates they will depend on the rail lines to furnish their traffic.

"Mr. RAUSCH. Well, I do not know. No doubt in establishing their rates and getting any business from St. Louis proper they will absorb the river transfer from St. Louis to the east side. There would be no way they could get it unless they would absorb either the ferry or the bridge charges. And in that they would simply be following what the rail lines do. The rail lines, of course, in handling any traffic on either side of the river must absorb the bridge toll.

"Examiner PITT. What bridge charges have you reference to?

"Mr. RAUSCH. The bridge toll between St. Louis and East St. Louis, the bridge or ferry charges. There are two ferries and there are two bridges, except that the

Iron Mountain has its own ferry at Ivory, which is inside of St. Louis, and handled to some extent some carload business over that ferry.

"Examiner PITT. How would that operate on local traffic? Suppose a merchant in St. Louis wanted to ship to Kansas City, how would he ship?

"Mr. RAUSCH. If a merchant now wants to ship anything from St. Louis to any points in Illinois——

"Examiner PITT. Kansas City.

"Mr. RAUSCH. Well, I was going to describe it.

"Examiner THURTELL. East St. Louis.

"Examiner PITT. A merchant from St. Louis wants to ship to Kansas City, that is where this boat line operates.

"Mr. RAUSCH. He would do just like a St. Louis merchant does now when he ships to Illinois or Indiana. If it is a box of dry goods he loads it on a dray or rather the St. Louis Transfer Co. does, and they take it to East St. Louis for so much, usually 5 cents per 100 pounds on less-than-carload stuff. If it is going to a point beyond 100 miles, the rail line handling it from East St. Louis to destination absorbs that transfer charge the same as they would absorb the bridge toll or the ferry. They treat this wagon transfer the same as the rail or ferry transfer charge. Now a firm at St. Louis in handling Missouri River Kansas City business by the river, they would load it on this same wagon and they would take it over and deliver it to the head of the incline of this transportation company.

"Examiner PITT. Do not some of the merchants use their own drays in handling this traffic?

"Mr. RAUSCH. Yes. There the rate would apply as applicable either from St. Louis or East St. Louis, to whichever place it is drayed.

"Examiner PITT. They have no place for receiving it in St. Louis, I understand.

"Mr. RAUSCH. They have a place on the east side in one of the old warehouses there, the river wharf boat.

"Examiner PITT. In St. Louis proper?

"Mr. RAUSCH. No; on the east side.

"Examiner PITT. But I am speaking of St. Louis. Suppose the merchant wanted to use his own dray, how could he do it?

"Mr. RAUSCH. He could dray it over the Eads Bridge; that is a wagon bridge.

"Examiner PITT. Would there be any absorption of the charge?

"Mr. RAUSCH. There would not be any absorption in the case of the rail lines in that case, because they would only absorb what they collect from the transfer company. These companies are mentioned in the switching tariff on file with the Interstate Commerce Commission. But this boat company not having its tariffs on file with the commission would or would not absorb just according to the amount they could collect, and with a difference in the freight rate of 12 or 15 cents per 100 pounds on first-class freight possibly the shipper would be willing to dray it over there, or if out of a 48-cent rate the boat company wanted to make this absorption they could. Their through tariff is not filed with the commission, neither is any of their absorptions."

Witness Rausch, referring to river transportation to Omaha, mentioned the fact that a boat had left Kansas City for Omaha about two weeks preceding the second hearing in this case and that it was heavily laden, adding that in the Concordia case he had testified as to the articles contained in the cargo. We also call attention to that part of Exhibit 3 of this witness, dealing with the history of navigation on the Missouri River. There is no doubt that the river is navigable to Omaha and that transportation thereon would at once become an important factor were any material advance to be made in the rail rates.

Section 12.

RATE REGULATION BY WATER COMPETITION MORE EFFECTIVE THAN COMMISSION REGULATION.

"Reduction in rail rates resulting from a possibility of water transportation is not a simple subject. There is no question that towns having a water transportation are for that reason favored with lower rates than other places having no water transportation and requiring equal rail haul. It is my understanding that this condition is recognized by the Interstate Commerce Commission."

This is a correct statement of the effect of actual and potential water competition on rail rates. To make the matter more clear we append a table showing the actual effect on rates over a long period of years, between Chicago and New York. The rail distance is 912 miles. There are three classes of rates in force: First, by rail; second, by rail and lake; third, by canal and lake.

From a study of these tables, it will be seen that while there is always a differential against all-rail rates, the presence of the rail-and-lake rate and the rail-and-canal rate has the effect of bringing the all-rail rate down to a point much lower than would be the case if there were no actual water competition. As this comparison extends over a long period of years, and is not theoretical, but the result of actual experience, we may assume with perfect safety that it represents approximately the relation between all-rail and water competition, and the slight difference in favor of the all-rail rates is the true measure of the special advantage to particular classes of commodities in shipping by that means of transportation.

"This might be true if there were no other method of controlling rail rates, but in these days when the railroads claim that they are being regulated too much, there appears to be no lack of governmental machinery for controlling them, and it does not seem necessary to spend $20,000,000 to bring about a proper rail rate between Kansas City and St. Louis."

Power of Interstate Commerce Commission to regulate rates is not arbitrary.—But it may be said further in answer to the statement of the district officer that the power of the Interstate Commerce Commission to regulate rates and in fact the power of the Government itself is not arbitrary. Such regulation must be based upon certain established principles and the known factors governing the movement of particular traffic. The district officer's report seems to assume that it is possible for the Interstate Commerce Commission to fix arbitrarily the rates between Kansas City and St. Louis. It can permit the carrier to adjust its rates, as it has done in many cases, to meet actual and potential water competition, but if such competition by water is destroyed as contemplated in the report of the district officer, the most important element of rate regulation has been eliminated. It can not be said, therefore, that if the improvement of the river be abandoned the Interstate Commerce Commission has ample machinery to establish a proper rate between Kansas City and St. Louis. The commission can not even compel the rail carrier to lower its rate to meet a water rate. It must leave this to the natural pressure of competition.

The assumption here that the governmental control of rail rates is a guaranty against excessive rates between Kansas City and St. Louis seems to contemplate that the Interstate Commerce Commission is clothed with power to prescribe rates as low as would result from the forces of competition, water or otherwise. Such assumption is unwarranted. Such theory is at once refuted by the existence of the proviso in the long and short haul clause of the fourth section of the act to regulate commerce and the interpretation and administration thereof by the commission. Congress has always recognized that competitive conditions, when properly shown to exist, should justify relief from the rigid application of the long and short haul rule. Thus rates to intermediate territory are higher than to the Pacific coast and in numerous instances elsewhere throughout the country, and being so, are plainly not in violation of the statute. If the rates made by the water carriers to the more distant points, and met by the rail lines, were entirely reasonable and fully compensatory for the service performed, transportation conditions being similar, then the commission would have no alternative but to require the establishment of those rates as a maximum to intermediate rail territory. Conversely, the theory advanced by the district officer seemingly is that the Interstate Commerce Commission, finding the Missouri River flowing between Kansas City and St. Louis, may compute the potentialities thereof and require the railroads to operate rates in relation to what might be applied upon a substantial and constantly moving river commerce, without its actual existence. Congress has conferred no such power upon the commission, but it is an established canon of commission regulation of common carriers that competition is an element of controlling force in distinguishing transportation charges. Competition, however, when offered as justifying materially lower rates, must be substantial and even more than potential to be approved of, much less prescribed. (LaSalle Paper Co. *v.* M. C. Ry., 16 I. C. C., 149; Chicago Lumber & Coal Co. *v.* T. S. Ry., 16 I. C. C., 323.)

"Since the act authorizes carriers to make lower rates to points where competitive conditions obtain, many shippers concluded that the act gave them the right to demand lower rates at such points. While the law permits carriers to maintain low rates under stress of competition, it does not require them to do so." (Beale & Wyman Railroad Rate Regulation, second edition, ch. 802; Crews *v.* R. & D. Ry., 1 I. C. C., 401; Oregon & Washington Lumber Manufacturers' Association *v.* U. P. R. R., 14 I. C. C., 1.)

"Whether they will reduce their rates to competitive points or not is a question of business policy which each carrier is free to determine for itself." (Kansas-Iowa Brick Rates, 28 I. C. C., 285.)

"It follows that while the carrier may take into consideration the competition as to producing cases of dissimilar circumstances and conditions, its right to do so is governed by the following principles:

"First, the absolute command of the statute that all rates shall be just and reasonable and that no undue discrimination be brought about, though, in the nature of things, this latter consideration may, in many cases, be involved in the determination of whether competition was such as created a substantial dissimilarity of condition.

"Second, that the competition relied upon be *not artificial or merely conjectural, but material and substantial, and thereby operating on the question of traffic and rate making*, the right, in any event, to be only enjoyed with a due regard to the interest of the public and giving full weight to the benefits to be conferred on the place from whence the traffic moved as well as those to be derived at the locality to which it is to be delivered." (Italics ours.) (L. & N. R. R. Co. *v.* Behlmer, 175 U. S., 648.)

The Interstate Commerce Commission, if it possessed the power to do so, might have prescribed as low rates to Spokane as applied to Seattle in the long years of litigation surrounding that issue, but it did not do so either in the original cases nor the recent fourth section applications of the transcontinental lines presented and decided since the canal was opened. (32 I. C. C., 611 and 34 I. C. C., 13.)

While the water service between the Atlantic and Pacific coast ports, prior to the opening of the Panama Canal, furnished an element of competition which the railroads recognized in the making of transcontinental rates and caused a lower level of rail charges to Pacific coast terminals than to intermediate points, the reflection thereof in the terminal rail rates was nothing like as marked as it exists to-day with regular sailings free from the former cumbersome and more expensive rail transshipment via the Panama Railroad across the Isthmus, a largely augmented volume of water-borne tonnage and radically lower rates.

Similarly, while the Missouri River has some competitive potentialities without a boat upon it and has recently been offered by the railroads as a justifying cause for lower rates to and from Missouri River cities than adjacent territory, it remains for the railroads to feel the competition of the river as reflected in the rail rates. So far from any reductions whatever being made in rail rates between Kansas City and eastern points, we point to Exhibit No. 39, showing the history of class rates from Chicago to Kansas City, which shows that the rates are materially higher to-day than 25 years ago. Said rates are based upon the rates from the Mississippi River.

We show, in Exhibits 45 and 46, the marked reductions which have occurred in the rail rates to the coast and the still greater relative reductions just presented by the rail carriers to the commission for application to the coast terminal cities by reason of increased competition of the canal route service. This history constitutes the determining test of our averment that the Interstate Commerce Commission's power to lower rates of common carriers is in no sense comparable with the free play of water competition. The cheaper rail rates to the Pacific coast flowing from the opening of the Panama Canal is the complete answer to the district officer's twelfth proposition.

Congress has entered upon a policy of conserving water competition.—Regardless of what the railroads claim as to the wisdom or necessity of governmental regulation, such regulation has become a settled policy in this country. Neither can it be said that the Government machinery for controlling them has been completely perfected. Numerous changes have been made in the interstate commerce law since its first passage in 1887, as experience in its practical operation demonstrated a necessity of strengthening and broadening that law. Doubtless other amendments will prove to be necessary. This important point must be observed, that Congress in its latest amendment (Aug. 24, 1912) vested the commission with power to compel the establishment of through rates by rail and water and to compel rail carriers to interchange freight with water carriers. It further provided against the possibility of driving water competition out of existence.

"Whenever a carrier by railroad shall, in competition with a water route or routes, reduce the rates on the carriage of any species of freight to or from competitive points, it shall not be permitted to increase such rates unless after hearing by the Interstate Commerce Commission, it shall be found that such proposed increase rests upon changed conditions other than the elimination of water competition." (Sec. 4, act to regulate commerce, as amended June 18, 1910.)

Instead of permitting the railroads arbitrarily to lower their rates to a point below the cost of carriage over a given territory until they have eliminated water competition, and then to raise them again to make the public eventually pay the loss which the railroads have thus voluntarily incurred, the law now provides that if a railroad carrier lowers its rate to meet water competition, it can not afterwards raise that rate without showing some change of conditions justifying the raise, other than the elimination of the water competition. It is apparent from these recent acts of Congress that the reestablishment of water traffic has been entered upon by Congress as a deliberate,

broad, and general policy. The improvement of the rivers for the purpose of navigation is supplemented by changes in the interstate commerce law protecting the boat lines against unfair methods of competition and compelling the articulation of the rail and water system for the interchange of traffic for convenience of the public. Rail and water carriage can be made to work in harmony and both controlled from the standpoint of the public interest.

Section 13.

"Over a great part of the distance the river is paralleled with railroads on both banks, and there are few localities which have no railroad within easy reach."

THE MISSOURI RIVER VALLEY IS A MAIN ARTERY OF COMMERCE.

Instead of this being an argument against the improvement of the river, it is, in two important respects, an argument in favor of improving the river: First, the presence of the railroad touching the river will under proper regulations compelling the articulation of rail and water rates furnish an interchange of business with the river; second, the presence of railroads paralleling the river is an indication of the movement of traffic.

Traffic west of the Mississippi River moves in east and west lines. It seeks the Missouri Valley between Kansas City and St. Louis as a natural artery of trade. Kansas City was originally Westport Landing; it owes its location as a distributing center to the fact that water transportation here reached the nearest point to the West and Southwest. In 1821 the Santa Fe trail began at old Franklin in Howard County, Mo., and extended to Santa Fe, N. Mex., on Mexican territory. In the same year, 1821, the first steamboat came up the Missouri River from St. Louis. The Santa Fe trail had its eastern terminus at old Franklin for only two seasons, and then it was found that steamboats could proceed to Westport Landing, the nearest point to the great empire of the Southwest. For the next quarter of a century Westport and Independence were the beginning of the Santa Fe trail. The whole growth of the Southwest and the entire development of the country from the Mississippi River to the Rocky Mountains has followed this same line. Even after railroads took possession of the territory and in many cases overbuilt the existing needs for rail lines, every pound of surplus freight moving into or out of this great productive region sought the river crossings. The future adjustment of transportation rates in general throughout the West will be based upon river points, and the river is the key to the commercial situation.

It is true that the Missouri River from St. Louis to Kansas City is paralleled by a territory served with a number of railroads which carry a heavy density of traffic to and from the Missouri River and beyond to the Pacific coast. We refer to Exhibit 36, showing certain operating results of a number of typical lines serving the territory between the Mississippi River and the Missouri River and beyond. Various other exhibits show the growth of traffic of the Missouri River territory and an increasing rail rate level during the same period. Collectively, these exhibits point to one conclusive fact which sufficiently answers the suggestion of the district officer that the Missouri River territory is adequately supplied with transportation facilities without river improvement. That fact, assuming that the growth of traffic has been no greater between the Missouri River cities and eastern territory than the traffic at large upon the systems of these railroads, is that against a constant extension of mileage, increase in freight density 1 mile per mile of line, economy in freight-train loading, sustained and increased length of distance haul and average receipts per ton-mile, these railroads are increasing, so far as they may, the rates upon freight traffic in every possible way, both for line haul transportation and terminal services.

The class rates from the East apply to much of the traffic moving to the Missouri River. These class rates are shown by Exhibit 39 to be now materially higher than 25 years ago. There is an exceedingly large movement of iron and steel from the Pittsburgh district, Chicago, etc., all of which takes class rates. Many important commodity rates have been and are being canceled and the articles restored to the classification. For example, these carriers now have pending before the Interstate Commerce Commission tariffs proposing to cancel the commodity rates from Mississippi River and Chicago territories on agricultural implements, of which there is an immense movement to the Missouri River, likewise upon furniture, which is a commodity also concentrated in large volume at and distributed from Missouri River cities. The proposed increase in the rate upon agricultural implements is 2 cents per 100 pounds, nearly 10 per cent, and upon furniture, 13 cents per 100 pounds, over 40 per cent, in carload lots.

Railroad monopoly of transportation.—The conclusion of the district officer is that commercial interests of the Missouri Valley can be better served by rail under the sanction of the rates established by the Interstate Commerce Commission, and therefore it is not necessary to spend $20,000,000 to provide an additional transportation route between Kansas City and St. Louis.

Commerce is entitled to the fullest development of every practical means of transportation.

Is railroad monopoly of transportation a good thing?

Preliminary report of Inland Waterway Commission, page 19:

"While the decline of navigation in the inland waterways was largely due to the natural growth and legitimate competition attending railway extension, it is also clear that railway interests have been successfully directed against the normal maintenance and development of water traffic by control of water fronts and terminals, by acquisition or control of competing canals and vessels, by discriminating tariffs, by rebates, by adverse placement of tracks and structures, and by other means."

Ibid., page 383: "It has been suggested that in both Great Britain and the United States the railroads have been charged with more than their real part of responsibility for preventing development of internal waterways, yet the fact remains that it is in those countries which have government ownership of railroads, and where governmental policy has protected the developing waterway systems from ruinous competition with the railways, that the waterways have been developed to the greatest extent and efficiency."

Ibid., page 385: "Railroad managers had no sympathy with the idea that larger transportation facilities were demanded, or that another method would supply cheaper transport than their iron highways. Their political influence as well as their vastly more important commercial influence was enlisted in antagonism. They believed it would be better to spend money in building new railroads or improving old ones rather than in waterways. They were determined to prove the correctness of this opinion, and they set about doing so by inaugurating a cut-throat competition against the waterways under circumstances in which the latter were at a hopeless disadvantage.

Ibid., page 387: "In short, European experience is that competition between railways and waterways is useful, desirable, and worthy of being protected by the State."

If Germany owned the Missouri River.—Preliminary report of Inland Waterway Commission, page 388:

"European students of transportation wonder that the United States should have permitted so one-sided a development of its transportation system. They point out that, with perhaps the exception of China, no other country has such a magnificent river system as the United States, or so great possibilities of its effective utilization. Nowhere else is there so large a proportion of freight which can be moved most advantageously by water. In another place it has been suggested that if the German Empire controlled the world's supply of a great staple, as the United States controls cotton, German economic policy would busy itself to bring about the manufacture of a vastly larger proportion of that raw material in Germany. And, similarly, if Germany, France, or Austria possessed such a river system as that of the United States, with possibilities of being joined to a lake system such as ours, these would long ago have been made the basis of a vast and busy transportation system."

Are railway facilities adequate?—The recommendation of the district officer that the improvement of the Missouri River be abandoned is founded upon the assumption that rail facilities are adequate and will remain adequate until "in another generation the improvement of the river becomes advisable." No assumption could be more unfounded.

Preliminary report Inland Waterways Commission, page 19:

"While the railways of mainland United States have been notably efficient in extending and promoting the production and commerce of the country, it is clear that at seasons recurring with increasing frequency they are unable to keep pace with production or to meet the requirements of transportation."

Ibid., page 23:

"While precise figures are not now obtainable, it is safe to say that the current value of our inland transportation facilities (of which railways form all but a small percentage) exceeds one-eighth of our national wealth, yet these facilities are so far inadequate that production is impaired and the growth of the country is retarded. While trustworthy estimates can not be made without further data, it is reasonable to anticipate that congestion of interstate commerce can be obviated in large measure by judicious improvement of waterways adapted to barge and boat traffic, at a figure much less than that estimated by competent authorities for so increasing railway facilities as to meet present needs."

The shortage of railway facilities.—That railway facilities are inadequate is not a mere theory or general statement, but is shown by a circular sent out within the last few days by the Interstate Commerce Commission:

"INTERSTATE COMMERCE COMMISSION,
"*Washington, D. C., October 7, 1915.*

"Informal complaints to the commission indicate that the annually recurring failure of transportation facilities known as 'car shortage' is again appearing. The commission urges on all shippers and all carriers that close attention to methods of loading, unloading, moving, and promptly returning to use the cars now available will go far toward making the present supply of cars sufficient for all purposes.

"In order that the business of the country may go forward without interruption, the commission urges shippers, both individually and through their associations, to cooperate to secure the prompt and full loading of cars and their prompt release. One of the chief causes of failure of car supply in past seasons has been the unnecessary detention of cars by careless shippers and by shippers using them for storage purposes. In the general public interest, shippers should endeavor to release cars at the earliest possible moment without regard to the free time given by the tariffs.

"All the efforts of the shippers will be unavailing, however, unless the carriers also use extraordinary measures to eliminate all delays chargeable to them. The failure of car supply is usually a failure of car movement. The congestion of terminals is the ever-present feature at times of such failure. The commission therefore urges carriers to make every possible endeavor to improve their methods of operation at terminals in order that cars may move promptly. Also company material should be unloaded with the same dispatch that is required of shippers.

"The commission is moved to make this appeal by its desire to save both shippers and carriers from the losses which are occasioned by failures of car supply, and by its knowledge that measures such as are here suggested have operated in past seasons to save all concerned from heavy losses.

"By the commission.

"GEORGE B. MCGINTY, *Secretary.*

Impossible to foresee the expansion of commerce.—Preliminary report Inland Waterway Commission, page 384, paragraph "A":

"Now, it must be borne in mind that at the time, three-fourths of a century ago, when the industrial world seemed called upon to determine which system of transportation it would accept and develop, there was no conception of the tremendous part transportation was to play in the future. The wildest visionary would not have dared predict that by the dawning of the twentieth century the tonnage of freight would be even a small fraction of the immense amount that now moves. The idea that Europe and North America would be gridironed with hundreds of thousands of miles of railroads, moving billions of tons of goods, would have been scouted. At that time it was assumed that commerce made transportation; the idea that transportation makes commerce was of later development. The possible development of both the consuming and producing capacities of great populations was utterly unsuspected. Nobody dreamed that commerce would soon demand all the accommodations that both rail and water could provide. It seemed a mere question of choosing between two systems of transportation, and naturally the one which offered the widest range of usefulness was taken up."

Who pays for the capitalization of new railroad lines?—It must be remembered that in addition to rate regulation the improvement of the river increases the transportation facilities and provides an additional outlet for the commerce of the Missouri Valley. Must this commerce rely entirely upon rail transportation and upon the probability of such rail facilities keeping pace with the commercial needs? It will cost $20,000,000 to provide an additional channel for commerce, but this channel is not limited to the capacity of a single line of railroad. Under proper use its capacity is probably that of a hundred lines of single-track railroad; its power of expansion under proper use is practically unlimited. Fifty years ago the first railroad train ran into Kansas City from St. Louis. The Missouri Pacific Railroad had been heavily subsidized by the people to encourage its construction because the existing traffic was not sufficient to pay operating expenses, much less a return upon the capital. To-day there are five lines of railroad between Kansas City and St. Louis, and the time is rapidly approaching where some of these lines must be double-tracked. The construction of a new line between Kansas City and St. Louis at the present time, including absolutely necessary terminals, will cost not far from the sum of $20,000,000. The five lines of single-track road now existing will not be sufficient to continue to handle the commerce, but will probably be outgrown in the next decade.

Where is the capitalization for the new lines to come from? Will not the public pay for this capitalization in some form if new single-track lines of railroads were added between Kansas City and St. Louis? The assumption that only the cost of improving the river is saddled upon the public and that by abandoning the improvement of the river a net saving is made of $20,000,000 is a fallacy. If the improvement of the river is abandoned in accordance with the report of the district officer the growth of commerce in the Missouri Valley will inevitably require more rail transportation, and the new capitalization thus needed must be met by the public. The amount of capital necessary to construct a new line of railroad will gradually increase as land values and the cost of terminals advance. To remit the commercial interests of the Missouri Valley to the use of rail transportation only and to assume that rail transportation will expand in proportion to the needs of commerce is to subject commerce to a constantly increasing burden for the capitalization of new railroad lines. This is not the case in the improvement of the river, but if the engineers are right in saying they can secure a 6-foot channel for $20,000,000 and can maintain it for $500,000 a year, this is by far the cheapest plan.

Must railroads only be subsidized?—Nearly every railroad west of the Mississippi and several east of that stream were built by Government aid, and in most cases had in addition thereto the aid of the States, counties, and townships.

The extensions and reconstruction of these roads have been partly out of earnings and partly out of increased capitalization which must be met out of the rates charged the shipping public.

The Pacific railroads between 1860 and 1880 were subsidized by the Federal Government in land and bonds to the amount of approximately $400,000,000. Engineers now agree that the Government itself could have built the lines for less money. But the building of the Pacific railroads, which was not justified by the then "present" commerce, has not only developed the great trans-Mississippi region, but has increased the prosperity of our common country many hundred times the amount expended.

Section 14.

COMPARISON WITH MISSISSIPPI RIVER COMMERCE.

"The fact is that anyone can make almost any estimate he sees fit as to the prospective commerce. I think a better way to approach the subject is by inquiry concerning a river that has been improved. An example is the Mississippi, between the mouth of the Ohio and the mouth of the Missouri. In the annual reports of the Chief of Engineers, this stretch of river is reported as having a navigable depth of 6 feet or more during the entire navigation season of recent years. The commerce for the calendar year 1913 was 258,709 short tons, not including sand and gravel or ferry traffic. It should be noted that this stretch of river is so situated as to draw commerce from the improved stretches of the Mississippi above and below it, as well as from the Ohio and the Missouri. If the Mississippi under these conditions and with a 6-foot channel carries 258,000 tons, it seems to me doubtful whether the Missouri with the same depth will carry any more. The Missouri River traffic would have to increase sevenfold to equal that on the above section of the Mississippi, and would have to increase a hundredfold to reach a figure commensurate with the cost of the work."

As to this it may be said, first, that the stretch of the Mississippi referred to is a north and south stream, whereas the course of traffic in the interior of the country has been and is from east to west. This has been true ever since the era of railroad expansion following the Civil War. All of the trunk lines of railroad east of the Mississippi River lead toward the Atlantic seaboard, and the great exporting and importing of the country is done through the Atlantic ports. This is a very natural course of policy on the part of the railroads. The railroad lines west of the Mississippi followed also the east-and-west line of traffic, and the matter was still further determined by the construction of the transcontinental land-grant roads. Every influence since the Civil War has tended to carry traffic in east-and-west lines, as opposed to the north-and-south lines which had prevailed before. The Missouri River from Kansas City to the mouth is an east-and-west line and is paralleled by more lines of railroads than the stretch of the Mississippi spoken of.

Moreover, the rail transportation and traffic conditions are so dissimilar as to render such comparison entirely inapt. We have pointed out elsewhere that the rates break or base upon St. Louis upon all traffic between points east of the Illinois-Indiana State line and all territory west of the Mississippi River. This is the natural result of the early construction of railroads to and west of the Mississippi and the original basis of rate adjustment, still operative, which fixed through rates at the sums of the locals to and from the river. (Burnham-Hanna-Munger case, 14 I. C. C., 299.) This

makes the westbound traffic "free," in a transportation sense, at the Mississippi River. The same is true at the Missouri River upon eastbound movement of grain, grain products, hay, and various other important commodities. Thus it is seen that the Mississippi and Missouri Rivers are "rate-breaking" lines and that the Missouri between St. Louis and Kansas City, flowing in the direct line of transit of traffic, lends itself naturally as an intermediate transportation agency to all this immense commerce of manufactures originating east and consumed west, and, vice versa, the products of soil, mine, and forest from the Missouri River States and beyond consumed east and for export. No such conditions attach to the traffic and transportation existing between the mouths of the Ohio and Missouri Rivers.

The officer's deductions are from interchange of river traffic only as to the local stretch of the Mississippi, but the improved Missouri will interchange an enormous fixed traffic with the rail lines east and west. This peculiar advantage of the Missouri reduces the deduction to a pure fallacy.

Second. It is not to be assumed that the Mississippi has reached the maximum of its commercial use. Traffic on water lines, as on rail lines, must increase faster in proportion as the extension of connecting systems extend the influence of the rates and facilities of such traffic. A short section of river, even though carefully improved, is under a tremendous economic handicap, as is equally true of a short section of railroad. The matter is tersely put in the preliminary report of the Inland Waterways Commission, 1908, page 387:

"American railway history is full of demonstration that a short railroad, reaching a limited number of markets and deprived of advantageous connections, can not survive unrestrained competition with a great system which reaches a vastly larger number of markets."

Many factors are now contributing to the revival of water-borne commerce. One factor is the protection which Congress has extended to boat lines against unfair methods of competition and the provisions made by recent legislation to compel interchange of traffic between rail and boat lines.

Another is the extension of a general system of waterways, including the Mississippi, Missouri, Ohio, and the route via the Illinois and Michigan Drainage Canal and the Illinois River, connecting the Mississippi with the Great Lakes. To this must be added the probable influence of the Panama Canal in drawing traffic of the Mississippi Valley toward the Gulf ports.

Third. A bare statement of gross tonnage, without any description of the character of freight carried, throws very little light upon the actual commercial value of the river. We have seen that the Missouri River is carrying each season an increasing amount of high-grade freight, and in this class of freight the value can not be measured solely in aggregate tonnage. It does not appear what classes of freight are carried on the stretch of the Mississippi from the mouth of the Ohio to the mouth of the Missouri.

Some captious critics have affirmed that the reason why the railroads permitted this particular river traffic to exist was because, in connection with the Ohio River, it was operated almost exclusively in the interests of the Steel Trust.

Prospective river commerce.—At the time the project was before Congress for adoption the tonnage of freight moving through the Kansas City gateway was estimated at 5,000,000 tons. This estimate was based on the figures of 1906, which is nine years ago. That tonnage is exceeded at the present time, based upon the actual eastbound traffic of the railroads in 1914 and the relation of east and west bound traffic in 1906. This is "present" commerce and not prospective commerce. It is present in the sense that it actually existed in 1914, but much of it was prospective at the time when the project was adopted.

As stated by the district officer in section 14 of his report: The President of the Missouri Valley River Improvement Association assumed that out of the 5,000,000 tons then estimated to be moving through the gateway of Kansas City, 20 per cent, or 1,000,000 tons, would move on an improved river. This estimate is not challenged and should be increased rather than diminished. A saving of $10,000 in freight upon the movement of 37,000 tons of traffic at 80 per cent of rail rates would mean a saving of more than $250,000 in freight upon the movement of a million tons of the same traffic and revenue. But the class of river traffic is higher now. If the total traffic remained at 5,000,000 tons, it can not be denied that there would be a relative saving upon a large part of the remaining 4,000,000 tons from any lowering of rates, brought about by water competition of the improved river.

As the total traffic from and through the lower river cities is now estimated to have reached 11,000,000 tons, there must be a relatively greater saving of freight on all of the increase in the traffic then in mind as soon as the river becomes a formidable factor. The saving on the freight not carried by river will not amount to the full

20 per cent of the present rail rates, because in all probability somewhat higher than river rates would apply for all-rail transportation. But the saving will exceed one-half the present difference. If the saving amounts to 10 per cent on the remaining 10,000,000 tons by rail to, from, and through the lower river cities, it will amount to more than $1,250,000 when plussed by the river traffic saving at 20 per cent lower rates. This assumes that the reduction in rail rates would aggregate $1 per ton and has regard for the higher class of commerce moving via river in 1915 over 1913.

This saving is greater than the estimated annual expense of maintaining the river, even including the interest charge so newly added. This does not allow for any increase of traffic within the territory served by the river, even during the years when the river is being brought to a state of completion. We have seen, however, that the traffic is increasing in this territory and that it is now perhaps 11,000,000 tons to, from, and through the lower Missouri River cities, as against the 5,000,000 tons estimated in 1907. At least another decade will elapse before the river is completely improved and the Government money is all expended; by this time the gain in traffic can be estimated with reasonable accuracy, based upon the gain in past years. But if we confine ourselves to "present" commerce, we still have ample tonnage, which, if affected by the estimated saving in freight rates, would more than carry the estimated fixed charges of the improvement. It must be repeated that to reduce rates the river must not be left a mere "potential" or experimental project, but must be a permanent and going traffic factor. It must be completed and put in condition for successful navigation in accordance with the design of Congress.

The following signed statements of prominent representative Kansas City concerns is evidence that a large and growing local commerce will go to the river in the future, based largely upon past performances since 1913:

Loose-Wiles Biscuit Co.

"OCTOBER 14, 1915.

"We are at the present time favoring the Boat Line Co. with carload shipments of pulp board, prepared peanuts, chocolate, and paper wrappers. We estimate that at the present time we are giving the boat line about 50 per cent of the tonnage which is named on our attached statement."

Tonnage for one year estimated:	Pounds.
76 cars, 100 barrels each, sugar	2,584,000
15 cars pulp board	600,000
8 cars prepared peanuts	196,000
25 cars chocolate	800,000
8 cars paper wrappers	288,000
	4,468,000

Builders Material Supply Co.

"OCTOBER 15, 1915.

"We are pleased to advise that we have shipped a carload of metal lath, amounting to about 30 tons, over the Missouri River from St. Louis to Kansas City via Kansas City Boat Line.

"We can easily give the boat line a dozen carloads a year if the service is continued, and will be glad to do so."

Carlisle Commission Co.

"OCTOBER 14, 1915.

"Kansas City handled 40,000 cars of hay last year and hope to handle about as much this crop season. With an improved river, so as to have a regular schedule and sufficient boats, feel safe in saying there would be 5,000 cars a year offered for shipment by the river to St. Louis and intermediate points as far down as New Orleans, and also for export. We have a contract to the Panama Canal for 3,000 tons of hay, which could go very nicely by the river.

"The cars are getting larger; as the average car is about 13 tons, 40,000 cars would make approximately a half million tons of hay, which is over a billion pounds in freight."

Kansas City Photographic Supply Co.

"OCTOBER 14, 1915.

"We could give them what business we have out of St. Louis, which would possibly amount to from 1,000 to 2,000 pounds per month. This we will be glad to do and are instructing our manufacturers in St. Louis to ship all heavy freights by water route."

Baker Manufacturing Co.—Windmills, pumps, cylinders, etc.

"OCTOBER 15, 1915.

"When the Missouri River is so improved that the conditions for navigation are regular and safe, we feel disposed to patronize the navigation company.

"We handle pipe from Pittsburgh, Pa., amounting to approximately 100,000 to 200,000 pounds per year, and if the river was in shape so this could be handled by water safely, and at a saving to us in freight, we would certainly give the river transportation as much of our business as it is possible to do so."

Metzner Stove Repair Co.

"OCTOBER 15, 1915.

"Referring to your recent communication inquiring as to the amount of freight which we can use on the river, will say that we use annually over 50 tons. We most certainly think that it would be a crime against the city as a whole if Col. Deakyne's report is approved."

The Jones Store Co.

"OCTOBER 15, 1915.

"If the boat line could improve its service from St. Louis, say have a boat leaving every day or every other day, so we would be assured of prompt service, we could give it practically all of our eastern business.

"If such arrangements can be made for prompt service we have no doubt that during the coming year we could ship over the river perhaps 500 tons or a million pounds of first-class freight. As you doubtless know, this class of freight pays a profitable rate.

"We are more than anxious to give the boat line every pound of freight possible, as we are profoundly impressed with the idea that river navigation is vital to the future success of Kansas City and the Great Southwest."

Montgomery Ward & Co.

"OCTOBER 15, 1915.

"Our records indicate that we have used the river navigation to the extent of about 700 tons, and if the Government can improve the river so that we can be assured of some regularity of service it would be safe to say that the tonnage would approximate 1,000 tons or more per season.

"About 80 per cent of our freight which goes by boat consists of freight which takes first-class freight rate.

"The amount of tonnage which we would be in a position to give the boat line would depend altogether on the service and facilities for handling."

The Faeth Iron Co.

"OCTOBER 15, 1915.

"It may be of interest to you to know that our tonnage from St. Louis to Kansas City via Missouri River Navigation Co. for 1914 was approximately 300,391 pounds and for 1915, 3,378,301 pounds and that we consider it a very satisfactory way to handle our heavy commodities."

Townley Metal & Hardware Co.

"OCTOBER 14, 1915.

"Our tonnage for the past five years is as follows:

	Pounds.
1911	106,546
1912	195,419
1913	228,723
1914	580,821
To October 10, 1915	912,328

"You will notice as the river has been improved the tonnage has nearly doubled. We estimate the available tonnage per season 2,750 tons, or 5,500,000 pounds, as minimum under normal conditions."

The Helmers Manufacturing Co.

"OCTOBER 15, 1915.

"We had for several years thought it would hardly be safe to ship furniture via boat line on account of the number of times it would be handled, but this season we have tried it out, shipping five carloads of desks. These shipments weighed 20,000 pounds each. The shipments have come to us not only in a very good time, the delivery being as good as that usually made by the railroads, but in perfect order.

"We see no reason why quite a volume of furniture should not move via the river. So far as our shipments are concerned, unfortunately most of our goods come to us from Chicago territory, so that it is not practical to use the river. Believe, however, that we could probably ship 40 or 50 cars of 20,000 pounds each during the shipping season."

Maxwell-McClure-Fitts Dry Goods Co., wholesale.

"OCTOBER 15, 1915.

"We find our tonnage on merchandise moving by the Kansas City Missouri River Navigation Co., thus far this season, is 463,534 pounds, a little in excess of 231 tons, and we see no reason why our tonnage should not be even greater next season than it has been the present year, as we find the service of the boat line very satisfactory.

"They have been making excellent time this season, and the merchandise arrives in much better condition than when shipped by rail, and the pilferage is a great deal less."

Gregory Grocer Co.

"OCTOBER 15, 1915.

"We just received another car of canned goods over your boat line during the past week and wish to state that we are more than pleased with your service, and further, we beg to state that if the service would be continued, we would use your boat line altogether in the future."

Snower Manufacturing Co.

"OCTOBER 14, 1915.

"We wish to advise you that, as the end of the boat line season is nearly over, after November 1 we will discontinue routing goods via the river.

"We are taking this opportunity of stating that, in the past four months, you have handled for us about 200 cases of cotton piece goods, resulting in a saving to us of about $125; also the service we received has been entirely satisfactory.

"We are very pleased in the way you have handled this business and can assure you that next season you will receive a more liberal share of our business."

Southwestern Milling Co.

"KANSAS CITY, *October 15, 1915.*

"At your request, we have compiled the tonnage which we consider available for boat service during the entire year of 1914, and the first nine months of the year 1915. In considering this proposition, we are assuming that the Missouri River and other western streams such as the Mississippi River, Illinois River and its canal connections, will be brought to a state of perfection by the United States Government, that will enable ample bottom on the rivers to fully sustain the tonnage which would be proffered for shipment in line with the total production of this Missouri Valley.

"The territories which we consider available for boat transportation are shipments destined to St. Louis, points east thereof, including Chicago, and to points south of the Ohio River and east of the Mississippi River, which is termed southeastern territory, and to the ports of New Orleans, and Mobile as Gulf outlets. The year 1914 our shipments to the territories designated above were as follows, which was available for water transportation wholly, or in part:

"Total, 122,202,078 pounds. We have deducted from this the tonnage of the winter months, when navigation would probably be closed, namely, January, February, November, and December, 39,420,481 pounds; leaving net, 82,781,597 pounds; from which we have further deducted 20 per cent to cover what would be termed quick or time shipments of 16,225,278 pounds, leaving a net available tonnage for transportation via water of 66,556,319 pounds, or 33,278 net tons.

"For the nine months of the present year 1915, to the same territory available by water, we have shipped 123,348,430 pounds; deducting from this the two winter months of January and February, and we have a net of 94,051,886 pounds; and further making a deduction of 20 per cent account of quick or time freight of 18,810,377 pounds, we have a net available tonnage for water service of 75,241,509 pounds, or 37,620 net tons.

"This you will note is for only nine months, and as we understand you could readily use the river during the month of October, and at least half of November, it would materially increase these figures for the calendar year of 1915.

"This refers entirely to the output of this one particular mill, located, as you know, at Kansas City, and consists exclusively of grain products."

Burnham-Munger-Root Dry Goods Co.

"OCTOBER 13, 1915.

"We have used the Kansas City-Missouri River Navigation Co. to a larger extent and for a longer period during 1915 than for any previous year. This has been possible because of the better service which this company has been able to give on account of their improved equipment and on account of the improvement of the river.

"We understand it is the policy of the Kansas City-Missouri River Navigation Co. to improve their facilities as fast as the Government improves the river. If the service rendered by the transportation company is improved, so will the business on its line. Service then becomes the all important factor in producing business for the river. This service can not be satisfactory until the river is improved so that the transportation company can use it to a better advantage.

"We found that we have been able to save $1.70 per ton on the average on all merchandise we have shipped via the Kansas City-Missouri River Navigation Co. We see no reason why we can not route 1,500 to 2,000 tons of freight per year via the boat line when it is able to give dependable and reasonably efficient service."

Western Wheeled Scraper Co.

"OCTOBER 14, 1915.

"I have had occasion to make some shipments of steel rail at two different times via the river, and the peculiar advantage that the river had at those times saved for me the business."

Schmelzer Arms Co., sporting and athletic goods.

"OCTOBER 14, 1915.

"We are pleased to advise you that we have during the past year used the Missouri River in shipping approximately 200,000 pounds of freight. With the proper service we feel sure our business would give the river transportation line a business exceeding 1,500,000 pounds. We appreciate the good work you are doing in this direction, but are not at all surprised, due to the fact that it is the unanimous opinion of the business interests of Kansas City and vicinity that water transportation is feasible and will do more toward developing our manufacturing interests and assisting our agricultural interests than any other avenue open to us."

The Haywood Alfalfa Warehouse Co.

"OCTOBER 14, 1915.

"'We are very strongly in favor of the Kansas City-Missouri River Navigation Co., and have consistently given them all the business that they could handle at the time we wished to move the goods for the past two years, even though the movement was handicapped and shipments made difficult by the lack of outbound railroad rates for the balance of the haul, particularly southeast of St. Louis.

"We have been in the habit of giving the navigation company anywhere from 10 to 50 cars at almost any time that they could handle them and will continue to do so. For the coming year of 1916 we could probably route their way from 5,000 to 7,000 tons of alfalfa meal."

Steinhorst Preserving Co..

"OCTOBER 12, 1915.

"We have just installed a large cider mill at Waverly, Mo. Since most of our cider is sold west of Kansas City, we are using the boat line to good advantage in bringing our goods to Kansas City, and we are certainly in favor of any improvements of the river which would facilitate the service and extension of the boat-line business."

Geo. W. Johnston Manufacturing Co., General Iron Works.

"OCTOBER 14, 1915.

"Answering your favor of the 11th, will say that while our shipments are not very heavy from the East, we routed two cars this season via boat line, and will probably double that amount, or possibly route about 100 tons next season via boat line."

Sears, Roebuck & Co.

"OCTOBER 13, 1915.

"We made shipments as follows:

	Pounds.
May	39.799
June	31.184
July	37.135
August	37.362
September	36.298
Making a total of	181.778

"We have been very well satisfied with the service and saving and will undoubtedly, at a later date, increase our river tonnage considerable."

Peet Bros. Manufacturing Co.

"OCTOBER 14, 1915.

"For the past several years we have been using the facilities afforded by the Kansas City Missouri River Navigation Co. in handling our shipments, and our tonnage has been from 150 to 200 tons eastbound and from 450 to 500 tons westbound, which makes a total of from 600 to 700 tons per season.

"When the necessary improvements are made to the Missouri River to enable the Kansas City Missouri River Navigation Co. to more successfully and economically handle the business they can secure, our tonnage should amount to 1,000 tons eastbound and 3,000 tons westbound per annum."

J. W. Jenkins' Sons Music Co.

"OCTOBER 12, 1915.

"We have used the boat ever since they have established traffic. We find on looking over our records that on October 1, 1914, to October 1 of this year the boat line has carried 260 tons of freight (pianos and talking machines) for our company. Our merchandise weighs about 12,000 pounds to a carload. This would mean that we shipped in that time from St. Louis to Kansas City via the boat line 43 cars of merchandise. We are satisfied that we could increase this tonnage very materially provided the work is carried on so that the boat line could increase the number of barges.

"The service this year has been better than any previous year and we feel that it would be a great loss to Kansas City's commercial interest to have this boat line discontinued at this time."

Page-Love Chemical Co.

"OCTOBER 12, 1915.

"We bring in here from the East about 100,000 pounds monthly, on which we can use the river transportation."

Hettinger Bros. Manufacturing Co., dental, surgical, and hospital supplies.

"OCTOBER 12, 1915.

"That we have been using the river transportation to the extent of three carloads of plaster of Paris during the current year and we expect to use this means of transportation for the shipment of this class of product that we use in our business."

Zenith Milling Co., flour.

"OCTOBER 12, 1915.

"In reply to your favor of the 9th instant we beg to state that our output is approximately seven cars of 20 tons each per day, the greater part of which is shipped beyond the Mississippi River, and with an advantage in rates it is all practically available for river movement.

"In 1914, because of the condition of the channel, we had so many delays we could not use the river to the fullest extent, but with an assured channel the river would be the medium of transportation."

The Kansas City Bolt & Nut Co., manufacturers of merchant bar iron.

"OCTOBER 12, 1915.

"The real beginnings of transportation facilities for a plant of this character mean barge delivery to a wharf on its own premises, where cranes could cheaply load or unload. This could be arranged by locking the Blue at its mouth. Then the Missouri River transportation would assume for us large portions, both in outgoing and incoming freight. Just how much, we would hesitate to suggest because of the large territory satisfactory river accommodations would open up to us.

"Our total number of cars handled in and out last month was 218."

J. Goldberg & Son, structural steel works.

"OCTOBER 12, 1915.

"In reply beg to state that our firm has been using this river transportation since April, 1915, and since then we have had shipped in from St. Louis 400 tons of steel in this manner, and, in fact, the K. C. Missouri River Navigation Co. is bringing in 100 tons of steel right now which is being shipped in from the Laclede Steel Co. This steel consists of reinforcing bars that are made in St. Louis.

"There are other grades of steel that we are using for building purposes which come from the eastern mills, namely, the Pittsburgh (Pa.) district. The volume of our tonnage is about 2,000 tons per annum, and it would be to our advantage to have it shipped in by the Missouri River transportation for the difference in freight between the water transportation and the railroad transportation.

"As yet the Kansas City Missouri River Navigation Co. has not got barges long enough to handle our material, as our material runs in lengths from 60 to 65 feet, and the longest steel they can handle is 50-foot lengths, but, as a matter of fact, I understand that they will build longer barges in the near future.

"The entire requirements of our tonnage is about 2,500 tons per annum, and it would mean a saving to us of about $2,000 between the river transportation and the railroad transportation; therefore you can readily see how much we are interested that the improvements on the Missouri River shall continue."

Admiral Hay Press Co., manufacturers of Hay presses.

"OCTOBER 12, 1915.

"We could give the river line an average of six or seven carloads a season at the least. It would mean a great deal to us, for the reason that our products are considerably weighty and the rating by the railroads makes the freight on them very high."

American Sash & Door Co., Kansas City-St. Joe.

"OCTOBER 12, 1915.

"Our shipments from the Pacific coast amount to 5,000 tons or 250 cars per annum, which with the opening of the Panama Canal might be brought into this market by way of New Orleans and St. Louis with a material saving in freight as against the present rail rate, or any such rate that is likely to obtain in the future.

"We receive from southern points—that is, Mississippi and Louisiana—in excess of 6,000 tons, a large portion of which might move by water if the channels were improved their entire length.

"We receive from eastern points from 400 to 600 tons per annum of such material as patent roofing and wall board, all of which take a rate somewhat in advance of the lumber rate, and which might be moved by way of water from St. Louis to Kansas City.

"It might be urged by the enemies of river navigation that lumber moving by commodity rate, that the rate would be too low to effect a very material saving to the consumer. To do so would be to reason from a false basis, as the saving effected should be considered only from the standpoint of the relation that the freight bears to the value of the product. In the case of lumber the item of freight frequently equals 60 or 75 per cent of the value of the product f. o. b. the mill, while in the case of dry goods and many other things the item of freight might be not to exceed 5 or 10 per cent of the product f. o. b. point of manufacture, from which you will readily understand that a saving of 10 per cent of the carrying cost on lumber would represent a greater saving to the consumer than would a 20 per cent reduction on many of the other necessaries. The force of this statement can be appreciated only when you compare lumber costs in markets enjoying river or lake rates as against markets depending wholly upon rail carriage."

Gille Manufacturing Co., tin and japanned ware—sheet-metal goods.

"OCTOBER 12, 1915.

"We have before us your letter of October 11. It would indeed be a blow to Kansas City—in fact, all Missouri River cities—to have our Congress withdraw appropriations for work on the Missouri River. By the operation of our boat line we are able to secure a rate fifth class on our commodities, $1 per ton lower than railroad rates.

"During the year 1914 we had moved from the Ohio districts 1,250,000 pounds of flat sheets and 1,400,000 pounds of tin plate, fifth-class commodities. Ninety per cent of this material was made up into finished products in our factory. This puts us in better position to meet eastern competition. In addition to the above tonnage, we had moved from Granite City, Ill., 800,000 pounds of flat sheets."

Smith & Sons Manufacturing Co., manufacturers of modern road-making machines, gasoline engines.

"OCTOBER 12, 1915.

"It is our earnest hope that sometime the steel-delivery situation will be relieved to such an extent that we can obtain steel deliveries more promptly, and in this way can afford to route shipments via the boat line. Our steel tonnage amounts to approximately 1,200 tons a year."

Security Stove & Manufacturing Co.

OCTOBER 12, 1915.

"About the only commodity we would be able to transport by the Missouri River would be pig iron, on which our requirements are approximately 1,000 tons per year.'

Maxwell-McClure-Fitts Dry Goods Co., wholesale.

"OCTOBER 13, 1915.

"As you know, we have given you a great deal more tonnage this year than any previous season, and our reason for doing so is from a strictly business standpoint.

"Our merchandise, as you know, is composed of high-class commodities, which, of necessity, must be handled in a fairly prompt manner, and for this reason in times past have not given you the tonnage we would like. This season we have increased the tonnage very materially, and are glad to say that the service rendered has been very satisfactory.

"The time in transit has been only a little longer than the all-rail service, and it is a fact commented on through our various departments, that merchandise is coming into our possession in better condition than it ever did when handled by railroad transportation.

"We have had shipments from points east of the Illinois-Indiana State line through to Kansas City in 10 to 11 days, which is equal to the rail service that we had on previous shipments."

Lovejoy Planing Mill Co., sash, doors, blinds, moldings, etc.

"OCTOBER 13, 1915.

"We could use the Missouri River transportation to a very considerable extent in bringing our lumber up from New Orleans and St. Louis, and that it would very materially help on the prices that we have to pay for this lumber. We get a great deal of this stock from Louisiana. In our case, it would amount to about 10 or 12 cars a year, which is a conservative estimate of what we would use."

Smith-McCord-Townsend Dry Goods Co., exclusive wholesale.

"OCTOBER 13, 1915.

"According to our books we have received freight from the boat line in volume as follows: 1911, 389 tons; 1912, 802 tons; 1913, 896 tons; 1914, 900 tons; 1915, 940 tons.

"Up to September 1, 200 tons yet to come. We should be able to route goods under favorable navigation conditions from April 1 to December 1, and if so, our business would amount to 2,000 tons of first and third class freight, though mostly first class.

"The largest shipment that we have received on any one boat arrived December 1, 1912—802 cases, 368,702 pounds—the value of the shipment in excess of $75,000.

"We have effected some saving in freight charges through the use of the navigation company, but our principal object in supporting the proposition was to contribute to the upbuilding of Kansas City as a distributing market.

"In the early history of the navigation company—that is, before the improvement of the river had gotten well under way and when shipping risks were very great and the service, by reason of low stages of water, snags, etc., was very unsatisfactory—we contributed a large tonnage because we saw in this movement an opportunity to reduce transportation costs and thus magnify the importance of Kansas City as a distributing center.

"It will not only be a loss to us, but will be an incalculable loss to Kansas City and to the Missouri River Valley if the navigation company is forced to quit business through the Government's failure to complete its contract."

Kryder-Shepard Co., merchandise brokers.

"OCTOBER 12, 1915.

"We can route every year from 10 to 20 cars via boat line, which business will be increased from year to year. At the present time we have an eastern manufacturer who is contemplating building a factory along the Missouri River, possibly near Boonville. Of course, this project will be held up pending decision of the War Department. This would mean additional business for Kansas City, as, of course, the boat-line rate is the only inducement to our people in building a western plant.

"We hope this matter will be decided before December, at which time our people will complete their arrangements for this factory for the next season."

Sewall Paint & Glass Co., manufacturers and jobbers.

"OCTOBER 13, 1915.

"The past year is the first year we have used the boat line at all. We received merchandise to the extent of about 50 tons only during this past season, but are so well pleased with the time and manner in which our freight was handled by the Kansas City Missouri River Navigation Co. that we expect to route a good many more shipments over this route during the coming year.

"The exact amount and tonnage we are unable to give at the present time, but we are quite sure it will be a decided increase over this past season."

Tarkio Molasses Feed Co.

"OCTOBER 13, 1915.

"We have only been operating the mill in Kansas City for two years. During this time we have given the boat line but 90 tons for St. Louis proper, this light tonnage being due to the fact that the boat service has been rather irregular and uncertain, and as we manufacture a prepared stock feed, or what is generally known as a molasses stock feed, it is important that our shipments are not subjected to delay. During this period we shipped to and beyond St. Louis 3,668 tons of this feed, all of which we would have much preferred routing via the boat line, and our probable tonnage in the next year will far exceed the tonnage above given, as our business is growing rapidly and we are continually opening new territory bordering the Mississippi to New Orleans. In fact, we feel that our business is yet in its infancy."

The United States Stock Food Co., high grade mixed feeds, of corn, oats, pure alfalfa, etc.

"OCTOBER 13, 1915.

"For instance, we use annually about 10,000 tons of blackstrap molasses, which comes by steamer from Cuba to New Orleans and is there transferred to tank cars for shipment to us by rail.

"This molasses should come to us by water all the way and will just as soon as adequate facilities for such shipments are made.

"We also expect to ship a considerable portion of our output to eastern and southern States in the future, and most of it can and will go at least part of the way via the Missouri and Mississippi Rivers if facilities and rates are favorable.

"As to the practicability of making the Missouri River navigable we are in no position to say. That is a matter for engineers to determine. But as to the utility of the river, if it can be made navigable, there can be no doubt in the mind of anyone who will give the subject even superficial and casual consideration."

United States Water & Steam Supply Co., plumbing and heating material.

"OCTOBER 13, 1915.

"This company is a stockholder in the boat line company, but until about a year ago we did not feel that we could have such goods as we sell handled to advantage by the boat line. We decided, however, to give the matter a trial; therefore, had several carloads of material shipped by boats during the summer. Our experience was so satisfactory that we are now planning to use the boat line whenever it is possible to route material via St. Louis, which means that we shall route several hundred tons of freight in that way."

W. A. Laidlaw Wire Co.

"OCTOBER 13, 1915.

"During the past year we have received 690,309 pounds, or 345 tons 309 pounds, of goods via Kansas City Missouri River Navigation Co. We expect to increase this next year."

Southwest Warehouse Co., storage.

"OCTOBER 13, 1915.

"While we have been in business only a little over a year, we have received as much as three carloads of material from the boat line, but this is nothing compared to what we expect to receive in case you are successful in the continuance of this long-needed feature."

Butler Manufacturing Co., steel products.

"OCTOBER 13, 1915.

"It is almost impossible for us to say how much freight would be shipped via the boat line, as it depends very largely upon the service that they could render.

"At the present time we have 14 carloads of freight routed in connection with the boat line at St. Louis for shipment to Kansas City, to move before the close of the season this year.

"If conditions warrant, which we think they will, we should be able to move at least three or four hundred tons yearly via the boat line, and possibly more."

The Kansas City Packing Box Co., wooden packages.

"OCTOBER 12, 1915.

"If the rivers could be put into shape to take care of traffic we could give business amounting to thousands of tons of lumber. This, of course, would be barge stuff entirely from points of shipment on the Mississippi.

"We use between two and three thousand cars per year, averaging 30,000 to 35,000 pounds to the car. We do not have many outgoing cars, as most of our boxes are used here in the city, although later on we hope to be able to ship our commodity to points that may be touched by the river."

Luce Trunk Co., fine leather goods.

"OCTOBER 13, 1915.

"We have used the Kansas City, Mo., River Navigation Transportation Co. ever since its organization, and each year we are using it in the transportation of our goods from St. Louis more and more.

"I do not know that I can give you the amount in tons or carloads, but I think that scarcely a week has elapsed during the open season, which is, I should say, from eight to nine months each year, and we are saving 20 per cent on the railroad rates.

"Next year we expect to use it more and more as our business increases."

Bemis Bro. Bag Co., bags, burlaps, twines.

"OCTOBER 12, 1915.

"We have had some of our goods shipped via the boat line when the shipping point originated, say, in St. Louis. Last year we got in several cars. This year, due to lack of demand covering that particular line of goods, we had but one carload, amounting to 15 tons, and we no doubt could increase the tonnage if they are going to continue making regular trips as they did this season."

The Askew Saddlery Co., harness, saddles, horse collars, etc.

"OCTOBER 13, 1915.

"I beg to advise you that we have shipped over the Missouri River from St. Louis to Kansas City this summer 213,982 pounds. This consisted of one carload of harness leather, four cars of sweat pads, the balance of robes and blankets for this winter. Advise you that the service has been very satisfactory, and we feel that we could easily double this next year. The reason the leather shipments have been so small over the river this year is because most of our leather purchases have been made in California. That is due to unusual conditions, and it has never prevailed before and probably will not prevail again. Advise you that the time made on these shipments are just as good as the railroad, and we will use every effort to give them all the tonnage we can."

Ellet-Kendall Shoe Co.

"OCTOBER 12, 1915.

"Answering your inquiry of October 9, we gave the boat line 20 tons of incoming freight on one trip this summer, and we gave them 60 tons of incoming freight on one trip a year ago. We never have used the boat line on outgoing freight. We could give the boat line from 80 to 100 tons per month of incoming freight during the season of navigation if the river were sufficiently improved to enable the boat to take care of our business and give us the very best service."

Kansas City Slate & Tile Roofing Co.

"OCTOBER 12, 1915.

"Our principal product is roofing slate quarried in Pennsylvania and Vermont and shipped to this section in carload lots, averaging in weight from 50,000 to 57,000 pounds, sometimes as much as 80,000 pounds in a car, with an average freight of 40½ cents per hundredweight. Of this, 27 cents is to the Mississippi River, the balance of 13½ cents across the State of Missouri. We have always held that this rate was unequal, giving towns like St. Louis, for instance, an advantage in the freight on roofing slate, with the result that great quantities of slate roofing is used in St. Louis and little or none in Kansas City, on account of the high freight rate.

"We have always felt that our product could be shipped via boat from St. Louis, as great quantities are exported and also shipped around to Galveston, Tex., at a very low rate, the material being imperishable, and could be shipped on open flat boats or barges."

Richards & Conover Hardware Co.

"OCTOBER 13, 1915.

"Our company has always been in favor of the improvement of the Missouri River, and have always used it as a mode of transportation when there has been an opportunity to do so. We believe it is the greatest asset Kansas City has to make it the great commercial and distributing center of this section, the same as water transportation has made Chicago great.

"In 1857 J. F. Richards, the founder of our house, took a stock of goods via the Missouri River from St. Louis to Leavenworth, Kans. The rates charged him at that time on hardware were lower than they are now after 58 years of progress (?) in transportation. From that time to now we have used the river at every opportunity, and we herewith give you a statement of our total tonnage for 1913, 1914, and 1915, up to October 9:

Years.	Tons via rail.	Tons via boat.	Total tons.	Approximate per cent. boat.
1911	.....	186	.....	.....
1912	.....	448	.....	.....
1913	9,877	790	10,667	7½
1914	13,515	266	13,781	1¾
1915[1]	10,555	1,932	12,487	15½

[1] Jan. 1 to Oct. 9.

"In addition to the above we have placed orders for about 270 tons routed via boat line, part of which is now in transit.

"Also the statement shows the tonnage that we have moved by river from 1911 to date. The last three years we show the percentage of our total tonnage that was moved by river. The percentage was very small in 1914 on account of the low stage of water interfering with navigation.

"In 1915 up to date the percentage of movement shows a very decided increase, which is accounted for by the good stage of water all through the season up to date. It would have been even larger if the navigation company had greater facilities.

"We estimate that with a reliable channel that can be depended upon that our per cent of water-borne tonnage would go to 40 per cent immediately, and rise from that figure to greater than 50 per cent as service improved."

McPike Drug Co., wholesale, statement.

"OCTOBER 16, 1915.

"During the year 1913 we received via the Kansas City Missouri River Navigation Co. 7½ tons of freight; in 1914 we received 199 tons; in 1915 to the 1st of October, 170 tons, which will probably be added to before the season is finished, making an aggregate of 200 tons. Our total tonnage is approximately 2,000 tons, and if boats and barges were leaving St. Louis daily we could multiply the tonnage via the boat line to the amount of 1,000 to 1,200 tons.

"In the wholesale drug business the tonnage is not great, but as a rule the classes are first and second, with very few commodity rates.

"We have every disposition to use the river as extensively as possible, and upon an improved channel with regular sailings we would, beyond question, give to the boat-line company a most liberal tonnage of our shipments.

Ryley-Wilson Grocery Co.

"OCTOBER 16, 1915.

"Our total tonnage into Kansas City from north, south, east, and west is about 20,000 tons per annum. Of this amount, there is about 3,000 tons that comes from the East to Kansas City that we could ship over the boat line if the improvement of the river was completed and we could be assured of prompt, safe, sure, and quick deliveries. A great deal of our merchandise is more or less of a perishable nature. We have only been shipping comparatively small business over the boat line on account of the incomplete improvements of the river, and consequently the dependable time of our receiving our merchandise; but we have always intended, when the river should have been completed and when the boat-line service is prompt, quick, and reasonably sure, to ship the greater part of our tonnage that comes from the east over the boat line for the purpose of saving the rate in freight on the boat line and via railroad, as well as to establish the regular boat-line service both east and west, as we know successful establishment of that service when the river shall have been finally improved would vastly benefit all of the western country in shipping its farm products of every kind to the seaboard, consequently we want to see the river improved not only for our own firm's improvement but for the benefit of this entire middle western country."

Ridenour-Baker Grocery Co.

"This house has used the Missouri River as a freight carrier since 1858, the year it began business. If we have not used the river any year since 1858, no boats were available or the channel was temporarily not usable. Until the Missouri Pacific Railway reached Kansas City, in 1866, the river was practically our only way of getting goods from points east of the Mississippi.

"In view of the history of our business, we naturally regard river navigation, actual and potential, as one of the best resources of this house and this community, and we consider its continuous development and permanent improvement of paramount importance to Kansas City and its tributary territory.

"In recent years we have made the following shipments by the Missouri River: 1913, 308,000 pounds, equal to 154 tons; 1914, 323,187 pounds, equal to 161 tons; 1915, 1,516,547 pounds, equal to 758 tons.

"Shippers of merchandise now require more in safety, speed, and care in handling of transportation lines than in former years. We call your attention to the fact that as the channel has been made safely navigable by the United States Government, and the equipment of the local boat line has been improved, we have been able to give more freight to the river."

Section 16.

CONGRESS DETERMINES APPROPRIATIONS.

Full emphasis has been laid by all of the various engineering boards and officers upon the necessity of continuous and systematic improvement. Unquestionably, if the project is worthy and is to be finally brought to successful completion, the most economical way is to support it with regular and sufficient appropriations, or possibly to place it under a continuing-contract system; but we are not entitled to assume, whatever may have been the experience of the past, that Congress will proceed in a wasteful manner with inadequate or irregular appropriations. For the purpose of this report we must assume that Congress will proceed according to its collective judgment as to what is adequate and economical in the way of appropriations.

ANALYSIS OF AND COMMENTS UPON EXHIBITS 1 TO 48, INCLUSIVE.

[By R. D. Sangster, transportation commissioner.]

NOTE.—The lack of time when this witness was called precluded the presenting of this testimony in detail at the hearing.

Prospective saving in freight charges justifies improvement of river.—In paragraph 6 of his report the district officer compares the cost of the present improvement project with the benefits to be derived. The cost is estimated at $1,100,000 per year, made up of interest, $600,000, and maintenance, $500,000. The benefits to be derived are by paragraph 8 designated by him to be "the actual saving in freight charges by the use of the river and the effect on railroad freight rates produced by the possibility of water transportation."

In reply attention is directed to the existing eastbound traffic shown in Exhibit 26, which in the year 1914 moved via the railroads to and from Kansas City and via Kansas City, originating in and destined to the State of Kansas and southern Nebraska. It fairly appears from the projection of these actual figures that the traffic in question aggregated, in 1914, 4,629,074 tons, and when there is added the traffic to and from the Southwest, Colorado and beyond, the total was over 9,000,000 tons. If the Missouri river had been improved completely as contemplated by the present project and had secured as much as 20 per cent of this traffic, the movement via river would have aggregated 925,815 tons, confining it to the traffic originating at and destined to Kansas City, the State of Kansas, and southern Nebraska. If the traffic increases during the next eight years as it has in the past eight, in 1922 it will have reached 1,237,351 tons. Doubling this figure by the addition of traffic to and from the Southwest, Colorado and beyond, would make the total reach 2,474,702 tons for river transportation. This assumes that the river would secure only 20 per cent at the outside, but the voluminous testimony given by shippers in the hearing before the board justifies the presumption that an even greater proportion will actually go to the improved river. So much for tonnage.

The computations hereinbefore made in connection with Exhibit 35 deal more directly with "the effect on railroad freight rates produced by the possibility of water transportation." A reduction of only 10 per cent in the rail rates, affecting as it would 100 per cent of the traffic, is shown would result in a lower freight charge by substantially more than $1,000,000 upon just that traffic originating at and destined to Kansas City and moving via Kansas City to and from Kansas and southern Nebraska. If the southwestern traffic and the traffic to and from Colorado and beyond is included, the saving will reach over $2,000,000 in toto, based upon a 10 per cent reduction in rail rates. It should be remembered that the computations referred to deal only with the eastbound revenue, and that the eastbound revenue is, as shown by Exhibit 26, only 36.15 of the total east and west.

The only question then is, assuming the ability of the river when improved to transport 20 per cent of the tonnage, will the rail rates likely be reduced as much as 10 per cent?

We point to Exhibit 44, which shows that in competition for a tonnage of general traffic of 822,517 tons moving via the Panama Canal from coast to coast during less than 12 months, the transcontinental railroads have reduced and are proposing further reduction in the all-rail rates to Pacific coast terminals aggregating much over 10 per cent, and in very many important instances as much as 20 to 35 per cent in carload rates, with still greater relative reduction in less than carload rates. It should be remembered that these transcontinental rates are blanketed from Colorado to the Atlantic seaboard, and that the reductions apply upon all the traffic originating in that wide expanse of territory. We have just pointed out that these reductions

have come about in competition for a traffic of less than 1,000,000 tons. Our estimate of 10 per cent reduction in rates resulting from Missouri River navigation is made in connection with a competitive tonnage which the river might transport of 2,500,000 tons in round numbers, so the incentive for making reductions would be correspondingly greater.

Improvement of river necessary for effective regulation of rates.—In paragraph 12 of his report the officer intimates that this territory now had adequate relief as to rates through another arm of the Government, namely, the Interstate Commerce Commission, and that for this reason "it does not seem necessary to spend $20,000,000 to bring about a proper rail rate between Kansas City and St. Louis."

This proposition is answered by Exhibits 38, 39, 40, and 41. Exhibit 39 shows the class rates from Chicago to Minneapolis and Kansas City for the years 1890 and 1915. The distance is approximately the same by rail. In 1890 the rates were substantially identical, but since July 1, 1894, by an increase in the rates to Kansas City, Minneapolis having remained stationary, the rates to Kansas City are very much higher than the rates to Minneapolis. Kansas City in the meantime complained to the Interstate Commerce Commission against this situation. (14 I. C. C., 299.) Kansas City's complaint on grounds of discrimination was dismissed by the commission because of the dissimilarity in the conditions of transportation, Kansas City having only rail transportation, whereas Minneapolis enjoyed the benefits of proximity to actual water navigation.

The importance of the class rates on westbound traffic is shown by Exhibit 38. Over 50 per cent of the commodities given are subject to fifth-class rating, as distinguished from special "commodity" rates. As shown by the exhibit, bar iron takes fifth class. The same is true of all iron and steel articles originating at Chicago and in the Pittsburgh district. There is a large movement of iron and steel to Kansas City. Witness Charles E. Faeth, a representative wholesaler at Kansas City, testified (Rec., 340–341) that he would ship via the improved river under proper conditions of service an annual volume of at least 5,000 tons of this traffic. Witness H. A. Fitch, a fabricator of structural steel at Kansas City, testified (Rec., 461–464) that his shipments from the East of iron and steel for fabrication amount to 20,000 tons a year, and that he would ship the big bulk of it on the improved river. This semimanufactured raw material takes the same rate as finished iron and steel products from the East, namely, fifth class.

It is shown by Exhibit No. 40 that the rate on wheat, Kansas City to Chicago, is 7.2 cents per bushel; the rate to St. Louis 5.4 cents. By Exhibit 41 it appears that the average rate on grain from Chicago to Buffalo via the lake lines is about 1 cent per bushel. The short-line rail distance from Kansas City to St. Louis is 277 miles and to Chicago 451 miles. It was estimated by Maj. Schulz, in House Document 1128, Sixtieth Congress, second session, that grain could be transported on the river from Kansas City to St. Louis for 1 cent per bushel, and relative distances considered as between this stretch of river and the lake route, Chicago to Buffalo, the estimate would seem to be well fortified.

It would be interesting to lay before you the tonnage of these railroads between Kansas City and Chicago as of the year 1894, in comparison with previous and subsequent periods, to see whether density of traffic and operating conditions of the carriers had warranted the increase in the rates made July 1, 1894. This is impossible. We have, however, in Exhibit 36, given you certain reliable data of these carriers, including certain prominent southwestern lines, for the years 1908 to 1913, inclusive, in respect of freight density, economies in operation, per ton and ton-mile earnings. The figures conclusively show that these railroads have enjoyed a constantly increasing traffic and efficiency of operation. Such results might well be accompanied with lower rate level. If the gain for this recent period in these respects is any criteria by which to judge of the ability of the railroads to establish lower rates since 1894, it may be safely inferred that the conditions have in fact warranted reduced rates. But the history of the matter is that instead of contemplating reduced rates these railroads have recently been before the Interstate Commerce Commission attempting to secure higher rates. The commission rejected the claims of the western lines, but did allow a general increase in rates in territory east of the Mississippi River, in 1914.

Not only is the Interstate Commerce Commission without power to initiate rates by rail as low as are made by water (brief, pp. 86–88), but you have a striking example in this Missouri River territory of the need of effective water transportation to accomplish what the Interstate Commerce Commission is powerless to prescribe as to rates both east and west.

Present and prospective commerce of this region justifies river improvement.—In paragraph 14 of his report the officer tests the question of river improvement by the present and prospective commerce, and says: "In my opinion the improvement must stand or fall by this criterion." Comparison is drawn by him between the estimated

1,000,000 tons for Missouri River made in the original reports in 1908 and the commerce of that stretch of the Mississippi River between the mouth of the Ohio and the mouth of the Missouri, which, in the year 1913, aggregated 258,000 tons.

The eastbound movement of grain, grain products, and hay via the railroads from Kansas City and via Kansas City from Kansas and southern Nebraska in 1914 was 2,141,160 tons. This was 73 per cent of the total tonnage. Confining in the estimate of prospective river commerce only 20 per cent of the total tonnage, would yield, based on 1914 traffic, 428,232 tons of grain, grain products, hay, etc., alone. It can not be denied that this is desirable traffic for both rail and water transportation. By Exhibit 47 it is demonstrated that over 86 per cent of the eastbound tonnage of the lake lines during the calendar year 1914 was composed of this particular kind of traffic. Kansas City is the second largest grain market in the United States, and the rates on grain and products from Kansas and southern Nebraksa break at Kansas City in movement east. (Rec., p. 502.) It is common knowledge, but at any rate is established by exhibits herein of the movement via rail and lake lines, that grain and products, hay, etc., move eastwardly to domestic and foreign markets. Exhibit 4 shows that the Missouri River States from which these products are drawn to the Kansas City market, produced in the eight years 1907 to 1914, 46.7 per cent of the entire wheat crop and 37.28 per cent of the entire corn crop of the United States. Exhibit 5 shows that in 1914 these States produced 54.2 per cent of the wheat, 36.8 per cent of corn, 41.8 per cent of oats, and 20.9 per cent of hay for the entire United States. Exhibit 14 shows the surplus shipments in the year 1912 of similar commodities and various others from the 20 Missouri River counties bordering on the Missouri River. The surplus of grain was 465,588 tons and of grain products 100,586 tons.

Various other exhibits show the gain in volume of these commodities handled in Kansas City market in recent years, and by Exhibits 7 to 13 is indicated the substantial production in this territory of such minerals as petroleum oil, coal, lead, zinc, etc., and of cement. All of these commodities may be considered as desirable river traffic, and the rate of gain in production of them in this territory has been such as to leave no room for reasonable doubt that the tonnage therein will constantly increase as the agricultural and mineral resources of this territory are developed. The statistics on growth in population and value of manufactured products in Kansas City and in this general territory are simply cumulative in forcing this conclusion. All of this at the same time supports an increasing westbound commerce.

As to the comparison between the Missouri River prospective commerce and the actual commerce upon the stretch of the Mississippi River selected by the officer, we may refer to the essential dissimilarities as touched upon of record (pp. 516–528). It seems sufficient to say that the drift of traffic in this country is east and west, and that upon all of that traffic except transcontinental business, the rates break at the Mississippi River; that the rates eastbound break in the same way, and as before pointed out, break also at the Missouri River upon grain and products, hay, etc., from Kansas and Nebraska. This peculiar rate adjustment enhances the value of the Missouri River, which runs in the same course with the rate adjustment and the movement of tonnage. The same can not be said of the Mississippi River between the mouth of the Ohio and the mouth of the Missouri, even considering it in connection with the through movement of traffic. The rates north and south, even if the volume of traffic were there, do not break either at Cairo or St. Louis. It follows that the potentialities of Missouri River commerce are distinctive and unique.

Neither the present and prospective commerce of this region nor the comparison made between the prospective commerce of the Missouri River and the stretch of the Mississippi River adopted may properly be relied upon as justifying a discontinuation of the present Missouri River improvement project.

Opening of Panama Canal justifies river improvement.—As stated in the sixth paragraph of the protest against the officer's report, and as testified to of record (pp. 529–533 and elsewhere), the radical reductions in rates for the water service between Atlantic and Pacific coasts through the canal, have been such as to jeopardize the commercial interests of the Middle West. These lower rates have extended the zone of sea competition far inland in the Middle States east of the Mississippi River, so that the present combination of rail and ocean rates on Atlantic and Gulf ports effect materially lower through rates to and from that region and the Pacific coast in relation with the rail rates to and from this mid-western country, and place a serious handicap upon the Missouri River territory. This is true notwithstanding the recent reductions in rail rates between this territory and the Pacific coast in consequence of the acute competition between the rail and water carriers from coast to coast. The rates between this section of country and Atlantic and Gulf ports are so much higher relatively than the rates between Middle States' territory and those ports, that the

Missouri River territory can not avail of the ocean service nor procure anything but threatened commercial embarrassment from the opening of the canal. The alternative is the improvement, not only of the Missouri River, but the Mississippi as well, and the opening of through water routes to the Gulf and the Atlantic seaboard through the Great Lakes. This territory has never enjoyed lower rates to and from the Pacific coast than from the Atlantic seaboard by rail. The railroads do not propose any lower rates now that the canal is open. The result is that this territory is completely surrounded, looking at the situation broadly, by a rate wall; the rates are higher from the East, and very much higher per mile to the Missouri River than to the Mississippi River, and are so much higher relatively between this territory and the seaboard, than the rates between points in the middle eastern section and Atlantic and Gulf ports, as to make a hump in the through charges between this territory and the Pacific coast as compared with the territory east of the Mississippi River, a condition that has never heretofore obtained in anything like the present degree.

Correction.—At page 525 of transcript, through typographical error, it is stated that "St. Louis takes 170 per cent of the New York-Chicago standard all-rail rates." It should read "117 per cent."

Population.—Exhibit 1 draws comparison of gain in population between Missouri River States and Ohio River States, so called, which shows that the Missouri River States have gained 44.5 per cent, as against a gain in Ohio River States of only 36.3 per cent, in the two decades closing with the year 1910.

In the same period the population of Kansas City, Mo., and Kansas City, Kans., considered as one city, has gained from 171,032 in 1890 to 330,712 in 1910, or over 93 per cent. On July 1, 1914, the Government Census Bureau estimated the population of these two cities to be 376,182, which showed a gain of 13.7 per cent over the 1910 census and 69.9 per cent over the census of 1900.

Exhibit 2 compares the increase in value of all farm crops between the Missouri River States and Ohio River States, and shows that the Missouri River States' gain was 109.5 per cent, the Ohio River States' gain 59.9 per cent.

Exhibit 3 shows the value of all farm property in the Missouri River States to have gained 289.14 per cent for the two decades ending 1910 and in the Ohio River States a gain of 91.3 per cent. The gain of the entire country was 154.9 per cent. The Missouri River States in 1910 contained 32.56 per cent, as against the Ohio River States 25.79 per cent, of the entire value of farm property of the country.

Exhibit 4 shows the wheat and corn production of Missouri River States for eight years—1907 to 1914, inclusive. During this period the production of the Missouri River States was 46.7 per cent of wheat and 37.28 per cent of corn of the entire country.

Exhibit 5 shows the principal grains produced in the Missouri River States during the year 1914. Of the entire country's production the Missouri River States' crop of wheat was 54.2 per cent; corn, 36.8 per cent; oats, 41.8 per cent; barley, 35 per cent; rye, 18.4 per cent; hay, 20.9 per cent; flaxseed, 80.4 per cent, etc. These States produced 20.83 per cent of the entire wool crop of the country.

Exhibit 6 shows the value of manufactured products in the Missouri River States compared with Ohio River States for the period 1899 to 1909. The Missouri River States made a gain of 88 per cent and the Ohio River States a gain of 73 per cent.

Exhibits 7 and 8 relate to the petroleum oil industry. Nearly one-half of the high-grade oil produced in 1913 came from Kansas and Oklahoma, and 26.5 per cent of the total of all grades of oil produced in the United States in 1913, representing 20 per cent of the world's supply, came from these two States. In 1900 the crude production of Kansas and Oklahoma was 81,186 barrels; in 1905, 12,013,495 barrels; and in 1913, 65,954,413 barrels.

Exhibit 9 shows the production of cement. In 1900 Missouri, Kansas, and Iowa produced 80,000 barrels, and in 1913, 11,801,848 barrels. These three States produced 12.82 per cent of the total for United States.

Exhibit 10 shows the production of coal in the Missouri River States was, in 1900, 16,794,985 tons, and in 1913, 26,948,334 tons.

Exhibit 11 shows that in 1913 the States of Missouri, Kansas, and Oklahoma produced 157,148 short tons of lead, or 97.4 per cent of the total for United States.

Exhibit 12 shows that Missouri, Kansas, and Oklahoma, in 1913, produced 145,371 tons of zinc, or over 43 per cent of the entire country's production.

Exhibit 14 shows the surplus shipments in the year 1912 of the 20 Missouri counties bordering on the Missouri River of various products, agricultural, horticultural, mineral, forest, etc., in tons.

Kansas City and Omaha shipments of agricultural products.—Exhibit 15 shows the number of bushels of grain, tons of hay, and barrels of flour shipped from Kansas City during the years 1907 to 1914, inclusive.

Exhibit 17 shows the importance of Kansas City as a market place and distributing center for hay. During the year 1914 there were received at this market 26,341 cars, containing 303,132 tons of hay valued at $2,121,924.

Exhibit 16 shows similar information as to Omaha, except hay, flour, and kaffir corn.

Exhibit 18 displays the number of grain elevators at Kansas City in 1915 and shows that there is storage capacity at this market now for 22,315,000 bushels of grain.

Exhibit 19 shows similar information for Omaha, and indicates that that city in 1914 had storage capacity for 7,200,000 bushels of grain.

Exhibit 20 shows the development of Kansas City, Mo., by years, from 1905 to 1914, measured by certain reliable data. Post office receipts in 1905 were $1,400,838.46, and in 1914, $2,997,307.87. Mail matter handled in 1905, 296,481,883 pieces; in 1914, 415,257,867 pieces. Internal-revenue receipts, 1905, $935,559.47; in 1914, $2,412,717.64. Bank clearings, 1905, $1,197,905,556; in 1914, $3,015,810,567. Bushels of grain handled, in 1905, 65,599,500; in 1914, 105,231,050.

Exhibit 21 shows the live-stock transactions at 13 principal markets in 1914. Of the total number of head received, the Missouri River markets received 36.8 per cent.

Exhibit 22 shows the sales of Kansas City merchants in thirty-odd jobbing lines during the year 1913 aggregated $202,000,000 in round numbers.

Exhibit 23 shows a four-year growth in Kansas City industrials.

Exhibit 24 shows the total value of manufactured products in Kansas City for four periods, 1899 to 1914. In 1899 the gross value was $103,612,000, and in 1914, $319,428,000.

The Kansas City output of flour by years from 1907 to 1914 is given. In 1907 the output was 1,974,949 barrels, and in 1914, 2,376,840 barrels. The daily capacity of Kansas City flour mills is 14,250 barrels. The daily capacity of Omaha flour mills (Ex. 19) is 2,000 barrels.

Exhibit 25 shows the railroad mileage in the Missouri River States for the period 1890 to 1913. During the period 1910 to 1913, the Missouri River States gained 4.5 per cent, whereas the gain in the United States was 0.8 per cent.

Exhibit 26 shows the actual rail movement of carload freight traffic, classified, eastbound and for export from Missouri River cities, and via them, when originating in the States of Kansas and Nebraska. The tonnage given "from and via Kansas City," is confined to traffic originating at Kansas City, and in the State of Kansas and southern Nebraska (south of Platte River). Attention is called to the right-hand margin, where the percentage of each kind of freight is shown. Grain, grain products, hay and broom corn comprises over 73 per cent of the total tonnage.

Page 2 of this exhibit shows the actual railroad tonnage and freight revenue of traffic exclusive of live stock, dressed or fresh meats, and packing-house products in the year 1906, originating at and destined to lower Missouri River cities, the State of Kansas and southern Nebraska. The actual eastbound and for-export-tonnage for the year 1914 is given. Upon the actual 1906 tonnage and revenue, and the actual eastbound and for-export-tonnage in 1914, have been projected westbound tonnage for 1914, and the east and westbound freight revenue for 1914.

Of the total east and west tonnage, through the lower Missouri River cities, in 1906, of 3,759,819 tons, it was shown (Appendix C, H. Doc. 1120, 60th Cong., 2d sess.) that the tonnage to, from and through Kansas City was 2,652,318 tons. This was limited to traffic to and from Kansas City, the State of Kansas and southern Nebraska via Kansas City. Attention is directed to the eastbound actual tonnage of the railroads in 1914 from Kansas City, State of Kansas and southern Nebraska, of 2,530,715 tons, which approximated 95.4 per cent of the total east and west tonnage in 1906. The figures just discussed do not include the traffic moving through Kansas City, from and to Oklahoma, Texas, New Mexico, Colorado and beyond. It was estimated, in 1906 (Appendix C, H. Doc. 1120, 60th Cong., 2d sess.), that the addition of this traffic would double the figures given as to Kansas City, the State of Kansas and southern Nebraska.

The total tonnage, including the southwest, Colorado and beyond, moving via Kansas City by rail, in 1906 was estimated to aggregate 5,000,000 tons. In 1914, the traffic from and to Kansas City, the State of Kansas, and southern Nebraska via Kansas City, of these same railroads, amounted to 4,629,074 tons. Using the 1906 estimate and plussing this figure with the traffic to and from the southwest, Colorado and beyond, results in a total of 9,258,148 tons, moving to, from, and via Kansas City only.

A further computation was made on this exhibit to show that if 20 per cent of the 1914 rail tonnage to and from Kansas City and the State of Kansas and southern Nebraska, via Kansas City, had been transported on the Missouri River, we would have had 925,815 tons (stated 1,087,815 tons in error). In the year 1922, using the past eight years as a basis of projection, this would be 1,237,351 tons. Then doubling the fig-

ures to include the southwestern traffic and to and from Colorado and beyond, moving via Kansas City, would show a grand total of 2,474,702 tons *for river transportation.* This deals only with the actual traffic estimated on the 20 per cent basis to move via the river.

Exhibits 27 to 34, inclusive, show in detail the movement of railroad freight traffic and revenue to and from the lower Missouri River cities and via them to and from the State of Kansas and southern Nebraska in the years 1901 to 1906, inclusive.

Exhibit 35 shows the freight earnings on eastbound rail traffic from and via Kansas City for the year 1914, taken from Exhibit 26, and based upon the earnings which would accrue under the rates as shown in Exhibit 35. Through rates from Kansas and southern Nebraska were not used, but only the rate from Kansas City. To illustrate, upon traffic described in Exhibit 26, destined for the southeast, the basing rates from Kansas City to Ohio River crossings, Thebes and Cairo were taken, and the revenue computed upon those rates, it being assumed that the river would handle the traffic direct or with its water connections to those Ohio River crossings.

The total freight revenue of the rail carriers from this computation upon the selected commodities, excluding live stock and its products, was $5,741,158.70. Assuming that the rail rates would be subject to reduction in competition with the river, so that 100 per cent of the traffic would be subject to a saving in transportation charges, but assuming that the reductions by rail might be only 50 per cent of the reductions made by the river lines (80 per cent of rail rates being present basis), or only 10 per cent, the resultant reduction in this rail traffic would, for 1914, have been $574,115.87.

A further illustration may be taken. The railroad traffic as enumerated in Exhibit 26, to and from Kansas City via Kansas City to and from the State of Kansas and southern Nebraska, during 1914, aggregated 92.11 per cent of the total traffic to and from all lower Missouri River cities and via them to and from the State of Kansas and southern Nebraska. This percentage of the eastbound revenue would allocate to Kansas City and the Kansas City route traffic $5,147,303.20. Ten per cent of this figure results in $514,730.32.

Adding the westbound traffic in either of the above illustrations, would run the 1914 saving in transportation charges up to substantially $1,000,000 or more, if the river had been in effective competition with the rail lines and had carried only 20 per cent of the existing traffic. Again it should be noted that this comprehends only the traffic east and west, originating at and destined to Kansas City, and via Kansas City to and from Kansas and southern Nebraska. The southwestern traffic, upon the previous estimate made in 1908, in House Document 1120, when added, would substantially double this, and would have resulted in round numbers to a minimum saving of $2,000,000 in freight charges in 1914.

Exhibit 36 is a six-year record of typical western and southwestern trunk-line railroads. The figures given relate to system operation necessarily, as that is the only form in which these carriers make reports to the Interstate Commerce Commission. Assuming that the situation reflected by the system operations reliably portrays conditions in the territory between the Mississippi and Missouri Rivers, these data are offered to show that the railroads in this region have increased their average miles operated, substantially increased their density of freight traffic, or tons of freight 1 mile per mile of line, have increased measurably the freight-train loading or average tons of freight per train-mile. Against these developments they have sustained very well the average distance haul of 1 ton, average receipts per ton, and per ton 1 mile.

Exhibit 37 shows the rates and tariff authorities upon grain, grain products, hay, and specified commodities from Kansas City to the points and territories of destination shown in Exhibit 35, upon the traffic moving eastbound, and for export via the railroads in 1914, as per Exhibit 26.

Exhibit 38 shows westbound rates on important manufactures from New York to Chicago via all rail, lake and rail, and canal and lake; also from Chicago to Kansas City. For illustration, the rates on coffee, New York to Chicago, are 30 cents per hundredweight for all-rail transportation, distance 912 miles; 23 cents, lake and rail, and 19 cents, canal and lake. The rate, Chicago to Kansas City, on coffee, for a distance of 451 miles, is 27 cents. This is the fifth-class rate, Chicago to Kansas City. The New York-Chicago distance is 202 per cent of the Chicago-Kansas City distance, while the New York-Chicago rate is only 111 per cent of the Chicago-Kansas City rate. There is effective water transportation from Buffalo to Chicago, even though it has been for some 13 years dominated by competing rail carriers. There is likewise a through water route from New York to Chicago, via the Erie Canal, although that has been practically obsolete for a great many years. That an entirely new era has been entered upon and which may confidently be regarded as coming to early fruition in which a greater degree of competition between rail and water transportation between Great Lake ports and the east is clearly pointed by the present transforming of the Erie Canal into the New York Barge Canal, in conjunction with the recent decision of the

Interstate Commerce Commission in the application of Lake lines under the Panama Canal act (33 I. C. C., 700), wherein divorcement of rail and lake lines has been ordered effective December 15, 1915. Attention is invited to the fact that class ratings are applicable upon much of the westbound traffic to the Missouri River as distinguished from special "commodity" ratings. By Exhibit 38 it will be seen that fifth class of 27 cents applies on 6 of the 11 commodities shown, or 59.5 per cent of the total.

Exhibit 39 shows the rates on class traffic from New York to Chicago for the years 1888 and 1915 via all-rail routes, and for the years 1901 and 1913 via rail-lake and canal-lake routes, respectively. Also the rates Chicago to Minneapolis and Kansas City for the years 1890 and 1915. The all-rail distance, New York to Chicago, is 912 miles, first-class; 78.8 cents; the distance Chicago to Kansas City is 451 miles, first-class, 80 cents. The New York-Chicago all-rail rates were advanced 5 per cent in 1914. Prior to this advance the 75-cent first-class scale had been in effect 27 years. That scale was as high and higher, with varying temporary exceptions, as the rates theretofore in effect for a period of 12 years. On April 6, 1875, the all-rail rates New York to Chicago were, first-class 60 cents, second class 55 cents, third class 50 cents, fourth class 40 cents. In the interim the rates went down to as low as 15 cents, first class, and 10 cents, fourth class, in effect July 28, 1876. This refers to a period of rate wars and may be said to have not resulted from water transportation on the lakes. After the rail lines secured control of the lake boat lines in 1902, however, the rail-lake rates were increased from 59 cents to 62 cents, first class, and corresponding increases in the lower classes, except classes fifth and sixth. In 1906 the Hepburn amendment to the commerce act gave the Interstate Commerce Commission power to suspend the operation of proposed increased rates pending inquiry into the reasonableness and propriety thereof. Since then the rail-lake lines have made three different and distinct efforts to increase the rail-lake rates, terminating with a recent hearing before the commission under its Investigation and Suspension Document No. 615. It can not, therefore, be said that the rail-lake rates since 1901 have reflected a natural relation with all-rail rates, due to the domination and operation of the lake lines by the rail lines.

Attention is invited to the rates from Chicago to Minneapolis and Kansas City during the period 1890 to 1915. The rates to Minneapolis have remained stationery. In 1890 Kansas City enjoyed as low rates as Minneapolis from Chicago on all classes except "B," "D," and "E," which were 2 cents higher on "B," and 1 cent higher on "D" and "E." Third class was 3 cents less. The Kansas City 60-cent first-class scale was advanced gradually to the present scale, which has been in effect since July 1, 1894, and whereas in 1890, the rates Chicago to Minneapolis and Kansas City were on substantial parity for practically equal rail-haul distance, the rates are against Kansas City to-day by 20 cents first class, 15 cents second class, 5 cents third class, 7 cents fourth class, 7 cents fifth class, 7 cents class "A," 7 cents class "B," 5 cents class "C," 4.5 cents class "D," and 3 cents class "E."

There is no difference in the rail traffic and transportation conditions between Chicago and Minneapolis on the one hand, and Chicago and Kansas City on the other, that would establish any higher rates per mile to Kansas City. Lake transportation to ports on Lake Superior have had an influence, however, extending beyond Duluth 160 miles to Minneapolis. The absence of water transportation of an effective sort to Kansas City, or closer than Chicago, 450 miles distant, has resulted in increased and materially higher rates than in effect over 25 years ago.

Exhibit 40 shows the proportional rates on grain, Minneapolis and Kansas City to Chicago, and Chicago to New York; also the rates on grain from representative points in Kansas and Nebraska to Chicago. The rate on wheat, Chicago to New York for 912 miles, all-rail, is 18.8 cents, and from Kansas and Nebraska points to Chicago, an average distance of 726 miles, an average of 25.36 cents. The Chicago-New York distance is 125.6 per cent of the Kansas and Nebraska to Chicago distance. The rate Chicago to New York is 74 per cent of the average rate from Kansas and Nebraska to Chicago.

Exhibit 41 shows the lake rates on grain and products from Chicago to Buffalo for the season of 1914. The average rate on grain was around 1 cent per bushel. It was estimated in Maj. Schulz's report in 1908, House Document 1120, above referred to, that grain should be transported on the improved Missouri River from Kansas City to St. Louis for 1 cent per bushel.

Exhibit 42 shows the movement of grain from Chicago during 1914, via the Lakes and the eastern and southeastern railroads. The movement by lakes of wheat was over 200 per cent of the combined tonnage via eastern and southeastern rail lines, and the volume of flour via the lakes was 75 per cent of the combined movement via railroads.

Exhibit 44 is a statement of the tonnage which moved through the Panama Canal from Atlantic and Gulf ports to Pacific coast ports during the period September 27, 1914, to September 5, 1915. The total cargo, except coal, aggregated 822,517 tons.

Exhibits 45 and 46 show in detail the reductions which have already been made in the transcontinental rail rates, and as proposed, upon representative commodities, in competition for this tonnage. Particular attention is directed to these reductions which apply from all territory east of the Rocky Mountains, and which the rail carriers have made and are proposing to make in pursuing the comparatively small tonnage originating in eastern and southern territory within the zone of canal route competition.

Exhibit 47 shows in detail the tonnage of representative boat lines on the Great Lakes for the year 1914. Of this eastbound tonnage, over 86 per cent comprised grain, grain products, and hay.

Exhibit 48 is a comparison made by Mr. A. W. Mackie, secretary of the Kansas City Missouri River Navigation Co., between the efficiency estimated to be obtained from an investment of $1,000,000 in carrying craft, suitable to the improved Missouri River, and the demonstrated efficiency of the Great Lakes fleets, as per exhibits of the lake lines, by Mr. Fell, in Investigation and Suspension Docket 615, recently heard by the Interstate Commerce Commission. Under this computation, $1 of investment would transport 0.29 ton on the Great Lakes, and 0.64 ton from Kansas City to St. Louis, resulting in gross earnings of the lake lines of $0.45, and of the Missouri River $1.22. The gross earnings per ton via the lakes lines are estimated as $1.53 and via the Missouri River $1.75.

In conclusion.—The reexamination called for by the act of Congress probably was not intended to embrace an opinion as to whether Congress would or would not proceed in an economical manner. The questions involved in such reexamination are necessarily these:

First. Has the progress of the work thus far shown that the engineering plan is feasible and the estimate of cost approximately correct?

Second. Has there been any substantial and permanent change in the commercial aspects of the question since July 25, 1912, which destroys the value of the evidence of commercial importance upon which Congress then based its adoption of the project?

The district officer's finding in section 4 of report answers the first question and confirms your previous recommendations.

In answer to the second question, we submit the increased traffic, increases in population, products of soil, mine, industry, and commerce since the 1908 reports to Congress, confirmed in 1911, as the best of evidence justifying and requiring a finding that the commercial possibilities of the river were never so favorable, and the recommendations of this honorable board that the existing Missouri River project should in no wise be abandoned, but, on the contrary, promptly completed as vitally necessary in the larger interests of commerce and transportation.

What the proposed abandonment of the river improvement means.—A. It means a loss to the Government of the work already done and the appropriations already expended. (See sec. 15, district officer's report.)

B. It means a loss of a large portion of the investment of the boat line in its fleet and all of its investments in the warehouses and terminals.

C. It means a loss of the plant assembled for the purpose of prosecuting work. This is approximately $600,000.

D. It means a loss to the taxpayers of Kansas City of the amount invested out of the proceeds of city bonds for the construction of a municipal wharf and terminal.

E. It means a scattering of the contractors now operating upon the river and a removal of their equipment, with a result in delay and increased expense of again assembling a sufficient force of reliable contractors and laborers.

Respectfully submitted.

THE COMMERCIAL CLUB OF KANSAS CITY.

ADDENDA.

[Kansas City Times, October 16, 1915.]

Cheered his river views—Secretary McAdoo said the Missouri's use was vital—He praised Kansas City's enterprise in proving the stream's practicability, and said: "Congress should increase its aid every year."

Kansas City shamed Congress out of the idea of discontinuing the improvement of the Missouri; and Congress should have been shamed out of it.

You should be ready to send your products through the Missouri and Mississippi Rivers to the open sea. * * * As those valleys prosper, the whole country prospers.

The Missouri River acquired a new champion yesterday in the person of William G. McAdoo, Secretary of the Treasury. As the guest of Kansas City, Mr. McAdoo

took note of the city's water enterprise and "came through" with a timely and ringing indorsement that brought cheers from the public affairs committee of the Commercial Club at the Hotel Baltimore luncheon yesterday.

"You enterprising men of this city proved your faith in the practicability of navigating the Missouri River when you subscribed a big fund and actually navigated the river with boats and barges. Kansas City shamed Congress out of the idea of discontinuing the improvement of the Missouri; and Congress should have been shamed out of it.

KANSAS CITY AND THE CANAL.

"We now have the Panama Canal. Its construction virtually is the extension of the trade of Kansas City by way of the Missouri River, the Mississippi River, and the open sea to the west coast of South America. You men are not engaged in any foolish enterprise. You seek not to run deep-sea vessels up the Missouri River to the port of Kansas City. You are operating boats and barges, the practical things, and in this way you may connect with the big ocean vessels at New Orleans, and thus reach the open markets of the world."

WHY KANSAS CITY GOT THE BANK.

Mr. McAdoo was again interrupted with loud applause when he said:

"I am going to make a frank confession to-day to you men of Kansas City. I was a member of the commission that took testimony as to the respective commercial importance of the cities of the United States with a view to apportioning the Federal Reserve banks. When we left Washington on that long journey of inspection and investigation, which, in fact, was to be a survey of the trade routes of the country, I am frank to say we did not have Kansas City on our minds as even a prospect.

"But after our visit to Kansas City and the accompanying awakening we experienced on surveying Kansas City and its territory, we could not get Kansas City off of our minds. So we located here your present Federal Reserve Bank."

Mr. McAdoo spoke at length on the improvement of the Missouri River.

RIVERS A NATIONAL SUBJECT.

"It's not a political subject," he said. "It's a problem in economics. The prosperity of the whole country rests upon the development of its foreign trade, and you Kansas City men should be vitally interested in the export trade. You should be ready to send your products through the Missouri and Mississippi Rivers to the open sea. It's the duty of the Government to appropriate the money necessary to make the improvements of the Missouri River that will make that possible. I believe Congress should increase each year the amount of appropriations to be spent in such worthy enterprises as the improvement of the Missouri River. Such an enterprise does not contribute alone to the increasing of the trade and commercial growth of Kansas City. It is vital to every industry in the Missouri and Mississippi Valleys; and as those valleys prosper, the whole country prospers. It is the duty of the Government to foster any agency that is to better serve the needs and the prosperity of the people. It's the duty of the citizenship to see that money thus appropriated is honestly and intelligently spent."

EXHIBITS.

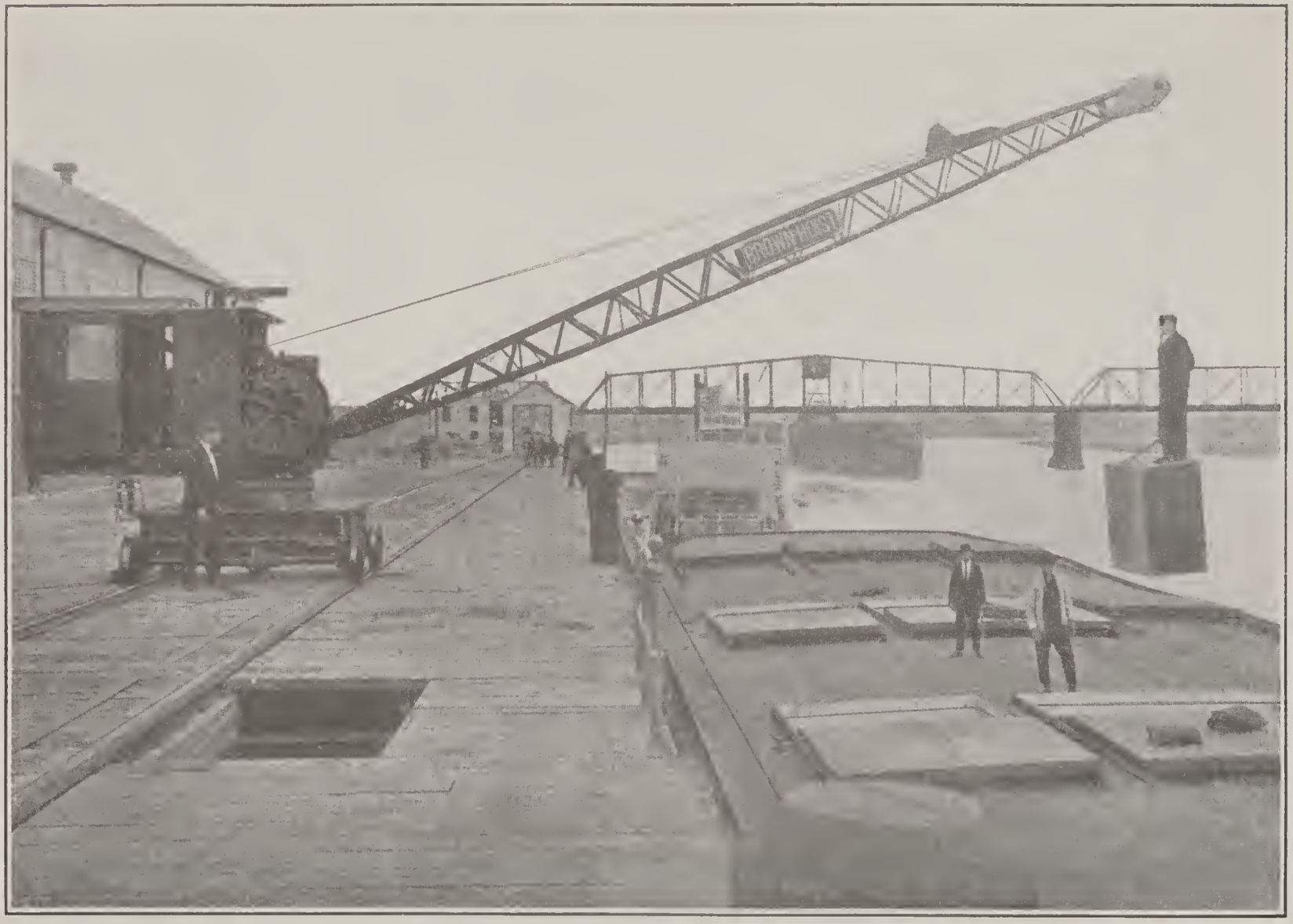
RECENT GROWTH OF MISSOURI RIVER STATES IN POPULATION, VALUE OF FARM CROPS, VALUE OF FARM PROPERTY, PRODUCTION OF PRINCIPAL GRAINS, VALUE OF MANUFACTURED PRODUCTS, AND PRODUCTION OF MINERALS.

EXHIBIT 1.—*Population (United States census).*

Missouri River States.	1890	1900	1910	Ohio River States.	1890	1900	1910
Missouri	2,679,185	3,106,655	3,293,335	Illinois	3,826,352	4,821,550	5,638,591
Kansas	1,428,108	1,470,495	1,690,949	Indiana	2,192,404	2,516,462	2,700,876
Nebraska	1,062,656	1,066,300	1,192,214	Ohio	3,672,329	4,157,545	4,767,121
Iowa	1,912,297	2,231,853	2,224,771	Pennsylvania	5,258,113	6,302,115	7,665,111
South Dakota	348,600	401,570	583,888	West Virginia	762,794	958,800	1,221,119
North Dakota	190,983	319,146	577,056	Kentucky	1,858,635	2,147,174	2,289,905
Montana	142,924	243,329	376,053	Tennessee	1,767,518	2,020,616	2,184,789
Oklahoma	258,657	790,391	1,657,155				
Total	8,023,410	9,639,749	11,595,421	Total	19,338,145	22,924,262	26,467,512

VIEWS OF KANSAS CITY TERMINAL AND TYPE OF BARGE OF KANSAS CITY MISSOURI RIVER NAVIGATION COMPANY.

Showing interior of barge and method of loading. Notice fireproof compartments.



SHOWING TRAVELING HOIST TAKING LOAD FROM BARGE.

This hoist has a capacity of 2 tons and a loading or unloading speed of 120 tons an hour.

NEW MUNICIPAL WHARF, WHARF HOUSE, AND BARGES.

Showing track on which electrically operated hoist runs.

SHOWING TRAVELING HOIST DEPOSITING LOAD AT WHARF HOUSE.

EXHIBIT 1.—*Population (United States census)*—Continued.

TOTAL POPULATION.

	1890	1900	1910	Per cent of increase in 2 decades.
Missouri River States	8,023,410	9,639,749	11,595,421	44.5
Ohio River States	19,338,145	22,924,262	26,467,512	36.3

GOVERNMENT CENSUS OF POPULATION.

Kansas City, Mo.:		Kansas City, Kans.:	
1860	4,418	1860	1,902
1870	32,260	1870	2,940
1880	55,785	1880	3,200
1890	132,716	1890	38,316
1900	163,752	1900	51,418
1910	248,381	1910	82,331

EXHIBIT 2.—*Value of all farm crops (abstract of Thirteenth Census).*

Missouri River States.	1899	1909	Ohio River States.	1899	1909
Missouri	121,455,026	220,663,724	Illinois	214,832,706	372,270,470
Kansas	113,522,693	214,859,597	Indiana	122,502,274	204,209,812
Oklahoma	43,759,824	133,454,405	Ohio	156,852,358	230,337,981
Nebraska	92,469,326	196,125,632	Pennsylvania	126,994,141	166,739,898
Iowa	195,552,547	314,666,298	West Virginia	25,696,189	40,374,776
South Dakota	44,175,615	125,507,249	Kentucky	78,962,845	138,973,107
North Dakota	54,040,817	180,635,520	Tennessee	70,745,242	120,706,211
Montana	10,692,515	29,714,563			
Total	675,668,363	1,415,626,988	Total	796,595,755	1,273,612,255

Per cent of increase: Missouri River States, 109.5; Ohio River States, 59.9.

EXHIBIT 3.—*Value of all farm property, Missouri River States.*

[Abstract of Thirteenth Census.]

States.	1890	1900	1910	Per cent increase from 1890
Missouri	$786,390,253	$1,033,121,897	$2,052,917,488	.....
Kansas	706,664,141	864,100,286	2,039,389,910	.....
Nebraska	511,799,810	747,950,057	2,079,818,647	.....
Oklahoma	12,221,020	277,525,433	918,198,882	.....
Iowa	1,100,682,579	1,834,345,546	3,745,860,544	.....
South Dakota	145,527,556	297,525,302	1,166,096,980	.....
North Dakota	100,745,779	255,266,751	974,814,205	.....
Montana	60,135,102	117,859,823	347,828,770	.....
Total	3,424,166,240	5,427,695,095	13,324,925,426	289.14
Total for United States	16,082,267,689	20,439,901,164	40,991,449,090	154.9
Per cent of entire country	21.29	26.55	32.56	.....

Value of all farm property, Ohio River States.

State.	1890	1900	1910	Per cent increase from 1890.
Illinois	$1,477,759,187	$2,004,316,897	$3,905,321,075	.....
Indiana	869,322,787	978,616,471	1,809,135,238	.....
Ohio	1,195,688,864	1,198,923,946	1,902,694,589	.....
Pennsylvania	1,062,939,846	1,051,629,173	1,253,274,862	.....
West Virginia	178,961,330	203,907,349	314,738,540	.....
Kentucky	428,170,266	471,045,856	773,797,880	.....
Tennessee	312,891,650	341,202,025	612,520,836	.....
Total	5,525,733,930	6,249,641,717	10,571,483,020	91.3
Total for United States	16,082,267,689	20,439,901,164	40,991,449,000	154.9
Per cent of entire country	34.36	30.55	25.79	.....

EXHIBIT 4.—*Wheat and corn production, in bushels, eight Missouri River States, by years, for eight years, 1907–1914, inclusive.*

[Abstract of Thirteenth Census.]

States.	1907		1908		1909	
	Wheat.	Corn.	Wheat.	Corn.	Wheat.	Corn.
Missouri	29,212,000	241,025,000	22,260,000	203,634,000	28,562,000	213,840,000
Kansas	65,609,000	155,142,000	79,282,000	156,200,000	87,203,000	154,225,000
Oklahoma	8,631,000	113,265,000	15,265,000	122,239,000	15,680,000	101,150,000
Nebraska	45,911,000	179,328,000	44,295,000	205,767,000	49,650,000	194,060,000
Iowa	7,653,000	270,220,000	8,068,000	287,456,000	7,446,000	289,800,000
South Dakota	32,480,000	47,175,000	37,862,000	57,677,000	47,588,000	65,270,000
North Dakota	55,130,000	3,080,000	68,428,000	3,856,000	90,762,000	6,045,000
Montana	4,003,000	90,000	3,703,000	94,000	10,764,000	274,000
Total	248,629,000	1,009,325,000	279,163,000	1,036,923,000	337,655,000	1,024,664,000
Total United States	634,087,000	2,592,320,000	664,602,000	2,668,651,000	683,335,000	2,552,190,000

States.	1910		1911		1912	
	Wheat.	Corn.	Wheat.	Corn.	Wheat.	Corn.
Missouri	25,958,000	247,500,000	36,110,000	192,400,000	23,750,000	243,904,000
Kansas	63,236,000	170,050,000	51,387,000	126,150,000	92,290,000	174,225,000
Oklahoma	25,542,000	91,760,000	8,976,000	36,888,000	20,096,000	101,878,000
Nebraska	38,760,000	191,565,000	41,574,000	155,925,000	55,052,000	182,616,000
Iowa	11,174,000	343,761,000	10,622,000	305,350,000	12,850,000	432,021,000
South Dakota	46,720,000	52,500,000	14,800,000	50,820,000	52,185,000	76,347,000
North Dakota	38,500,000	2,940,000	73,200,000	7,250,000	143,820,000	8,758,000
Montana	7,770,000	368,000	12,299,000	530,000	19,346,000	612,000
Total	257,660,000	1,100,444,000	248,968,000	875,313,000	419,389,000	1,220,361,000
Total United States	635,121,000	2,886,260,000	621,338,000	2,531,488,000	730,267,000	3,124,746,000

States.	1913		1914	
	Wheat.	Corn.	Wheat.	Corn.
Missouri	39,586,000	129,062,000	43,333,000	158,400,000
Kansas	86,983,000	23,424,000	177,200,000	108,225,000
Oklahoma	17,500,000	52,250,000	47,975,000	50,000,000
Nebraska	62,325,000	114,150,000	68,116,000	173,950,000
Iowa	16,395,000	338,300,000	15,066,000	389,424,000
South Dakota	33,975,000	67,320,000	31,566,000	78,000,000
North Dakota	78,855,000	10,800,000	81,392,000	14,000,000
Montana	20,673,000	882,000	18,356,000	1,400,000
Total	356,292,000	736,188,000	483,004,000	973,399,000
Total United States	763,380,000	2,446,988,000	891,017,000	2,672,804,000

Of the entire wheat crop of the United States for the eight years 46.7 per cent was grown in Missouri River States.

Of the entire corn crop of the United States for the eight years 37.28 per cent was grown in Missouri River States.

EXHIBIT 5.—*Principal grains for 1914 (bushels).*

[Yearbook of Department of Agriculture.]

tates.	Wheat.	Corn.	Oats.	Barley.	Rye.
Missouri	43,333,000	158,400,000	25,800,000	120,000	238,000
Kansas	177,200,000	108,225,000	58,960,000	5,880,000	1,000,000
Nebraska	68,116,000	173,950,000	69,600,000	2,656,000	1,952,000
Iowa	15,066,000	389,424,000	165,000,000	9,360,000	1,121,000
Oklahoma	47,975,000	50,000,000	30,250,000	175,000	96,000
South Dakota	31,566,000	78,000,000	44,165,000	19,550,000	1,020,000
North Dakota	81,392,000	14,000,000	64,904,000	28,275,000	2,240,000
Montana	18,356,000	14,000,000	18,550,000	2,135,000	210,000
Total	483,004,000	985,999,000	477,229,000	68,151,000	7,877,000
Total United States	891,017,000	2,672,804,000	1,141,060,000	194,953,000	42,779,000
Eight States (per cent)	54.2	36.8	41.8	35	18.4

States.	Buck-wheat.	Flaxseed.	Irish potatoes.	Sweet potatoes.	Hay (tons).	Wool (pounds).
Missouri	31,000	64,000	3,915,000	504,000	1,820,000	7,179,000
Kansas	16,000	270,000	4,464,000	550,000	2,492,000	1,403,000
Nebraska	18,000	49,000	9,440,000	.....	2,535,000	1,789,000
Iowa	110,000	190,000	12,642,000	200,000	4,071,000	5,319,000
Oklahoma	.....	.....	2,240,000	612,000	508,000	411,000
South Dakota	.....	2,400,000	5,670,000	.....	850,000	3,547,000
North Dakota	.....	6,972,000	7,630,000	.....	580,000	1,677,000
Montana	.....	2,560,000	5,180,000	.....	1,750,000	30,177,000
Total	175,000	12,505,000	51,181,000	1,866,000	14,656,000	51,502,000
Total United States	16,881,000	15,559,000	405,921,000	56,574,000	70,071,000	247,192,000
Eight States (per cent)	1.03	80.4	12.6	3.3	20.9	20.83

EXHIBIT 6.—*Value of manufactured products.*

[Abstract of Thirteenth Census.]

MISSOURI RIVER STATES.

	1899	1904	1909
Missouri	$316,304,000	$439,549,000	$574,111,000
Kansas	154,009,000	198,245,000	325,104,000
Oklahoma	8,134,000	24,459,000	53,682,000
Nebraska	130,302,000	154,918,000	199,019,000
Iowa	132,871,000	160,572,000	259,238,000
South Dakota	9,530,000	13,086,000	17,870,000
North Dakota	6,260,000	10,218,000	19,137,000
Montana	52,745,000	66,415,000	73,272,000
Total	810,155,000	1,067,462,000	1,521,433,000
Total United States	11,406,927,000	14,793,903,000	20,672,052,000
Total of entire country (per cent)	7.10	7.21	7.36

OHIO RIVER STATES.

Illinois	$1,120,868,000	$1,410,342,000	$1,919,277,000
Indiana	337,072,000	393,954,000	579,075,000
Ohio	748,671,000	960,812,000	1,437,936,000
Pennsylvania	1,649,882,000	1,955,551,000	2,626,742,000
West Virginia	67,007,000	99,041,000	161,949,000
Kentucky	126,509,000	159,754,000	223,754,000
Tennessee	92,749,000	137,961,000	180,217,000
Total	4,142,758,000	5,117,415,000	7,128,950,000
Total United States	11,406,927,000	14,793,903,000	20,672,052,000
Total of entire country (per cent)	36.32	34.59	34.48

EXHIBIT 7.—*Oil industry.*

The production of oil in the United States in 1913 was approximately 242,000,000 barrels. Increase over 1912, 10 per cent. Of this increase 65 per cent was from Kansas and Oklahoma. Nearly one-half of the high grade oil produced in 1913 came from Kansas and Oklahoma and 30 per cent of the total of all grades of oil produced in the United States in 1913, representing 20 per cent of the world's supply, came from these two States.

The Mid-Continent field alone is producing 200,000 barrels per day, which is selling at $1.03 per barrel; 53,412 oil wells have been drilled in Kansas and Oklahoma; 11,494 were drilled in 1913. The average cost of each well is $3,000. This shows an investment of $34,482,000 for the year. This amount does not include cost of producing equipment and money paid to landowners for oil rights.

There are 38 refineries operating in this field and there are 25 separate pipe lines, covering a total of 6,600 miles, used in transporting oil to these refineries.

We have a ready market for every barrel of oil produced, and now have in tank in Kansas and Oklahoma fields 51,000,000 barrels for refining purposes, which represents twice the quantity available in all eastern fields combined.

We have a greater undrilled proven area than all other fields in the United States combined. More money will be invested each year in this industry and the production of this territory will be greatly increased.

Kansas City is the natural and logical center through which to clear this business.

Authority statistics presented in Reserve Bank hearing at Kansas City before the Federal Reserve Bank Organization Committee January 23, 1914.

EXHIBIT 8.—*Petroleum.*

[Report of Geological Survey, 1913, p. 935.]

State.	1900	1905	1910	1913
	Barrels.	*Barrels.*	*Barrels.*	*Barrels.*
Kansas [1]	74,714	12,013,495	1,128,668	2,375,029
Oklahoma [1]	6,472	(2)	52,028,718	63,579,384
Total	81,186	12,013,495	53,157,386	65,954,413
Total for United States	.....	.....	.....	248,446,230

[1] These are only States in Missouri River group credited with oil production. [2] Included in above.

EXHIBIT 9.—*Cement.*

[Report of Geological Survey, 1913, p. 120.]

State.	1900	1905	1910	1913
	Barrels.	*Barrels.*	*Barrels.*	*Barrels.*
Missouri	.....	3,879,542	4,455,589	4,803,338
Kansas	80,000	230,686	5,655,808	3,374,836
Iowa	.....	.....	.....	3,623,674
Total	80,000	4,110,228	10,111,397	11,801,848
Total for United States	.....	.....	.....	92,097,131

EXHIBIT 10.—*Coal.*

[Report of Geological Survey for 1913, p. 725.]

State.	1900	1905	1910	1913
	Short tons.	*Short tons.*	*Short tons.*	*Short tons.*
Missouri	3,540,103	3,983,378	2,982,433	4,318,125
Kansas	4,467,870	6,423,979	4,921,451	7,202,210
Oklahoma	1,922,298	2,924,427	2,646,226	4,165,770
Nebraska	.....	.....	.....	.....
Iowa	5,202,939	6,798,609	7,928,120	7,525,936
South Dakota	.....	.....	.....	.....
North Dakota	.....	.....	399,041	495,320
Montana	1,661,775	1,643,832	2,920,970	3,240,973
Total	16,794,985	21,774,225	21,798,241	26,948,334

EXHIBIT 11.—*Lead.*

[Report of Geological Survey, 1913, p. 715.]

State.	1905	1910	1913
	Short tons.	*Short tons.*	*Short tons.*
Missouri	104,058	161,659	152,430
Kansas	.....	1,308	1,504
Oklahoma	.....	1,805	3,214
Total	104,058	164,772	157,148
Total for United States	.....	.....	161,300

EXHIBIT 12.—*Zinc—Primary spelter.*

[Report of Geological Survey, 1913, p. 623.]

State.	1900	1905	1910	1913
Missouri	14,741	11,844	140,652	129,018
Kansas	62,136	114,287	10,220	9,956
Montana	.....	.....	12,408	35,604
Oklahoma	.....	.....	2,297	6,397
Total	76,877	126,131	165,577	180,975
Total for United States	.....	.....	.....	337,252

EXHIBIT 13.—*Asphalt.*

[Report of Geological Survey, 1913, p. 539.]

Oklahoma:	
1910 (short tons)	11,959
1913 (short tons)	16,459

EXHIBIT 14.—*Surplus shipments, 1912, of the 20 Missouri counties bordering on the Missouri River.*

County.	Acres.	Value, all farm property.	Live stock.	Grain.	Hay, straw, alfalfa.
			Head.	*Bushels.*	*Tons.*
Jackson	390,400	$52,676,491	96,223	1,407,516	27,185
Clay	257,280	26,403,929	139,186	711,230	2,336
Ray	361,600	25,869,994	59,739	732,059	1,601
Lafayette	391,680	38,355,652	98,558	1,932,519	986
Carroll	449,920	34,058,032	84,486	1,353,330	5,388
Saline	482,560	43,550,165	97,112	942,300	2,601
Chariton	491,520	32,174,790	60,819	1,032,490	2,976
Howard	299,520	18,722,611	38,268	408,558	1,204
Cooper	357,120	26,776,438	88,523	1,085,598	314
Boone	440,320	27,055,742	116,088	585,262	1,698
Moniteau	262,400	14,008,465	43,331	437,411	55
Calloway	517,120	27,911,268	67,934	285,612	714
Cole	248,960	10,204,156	33,061	300,387	264
Osage	379,520	10,172,886	23,842	162,858	11
Montgomery	328,960	18,727,235	58,204	340,723	887
Gasconade	328,960	8,338,566	19,963	676,097	144
Warren	262,400	9,807,607	9,216	316,652	153
Franklin	562,560	20,561,031	42,633	627,634	507
St. Charles	342,400	20,348,259	34,783	1,197,902	6,900
St. Louis	311,680	48,173,219	33,900	981,835	22,000
Total	7,660,480	513,896,536	1,248,969	15,517,973	77,924
In tons	.....	.....	199,969	465,588	77,924

EXHIBIT 14.—*Surplus shipments, 1912, of the 20 Missouri counties bordering on the Missouri River*—Continued.

County.	Tobacco.	Seeds.	Nuts.	Mill products.	Mine and quarry products.	Forest products.	Poultry.	Stone and clay products.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Feet.*	*Tons.*	*Tons.*
Jackson	37.8	91.3	1.7	28,944.0	230,480	1,771,000	1,274.0	39,000
Clay	251.0	117.0	3.8	601.0	57,100	249,000	388.7	.....
Ray	6.0	.....	2.2	227.0	340,793	27,100	329.0	840
Lafayette	2.0	22.5	2.6	21,594.8	683,283	608,000	453.5	920
Carroll	31.5	253.5	49.2	1,955.5	95	56,000	1 375.8	.....
Saline	.5	21.1	3.5	5,168.0	210	4,968,000	697.0	20
Chariton	53.0	192.2	243.0	713.0	200	260,000	563.2	760
Howard	125.3	4.5	74.3	3,497.8	64,872	253,800	728.3	240
Cooper	25.0	38.4	15.3	3,308.0	54,310	429,000	925.0	460
Boone	40.0	1.0	1.1	161.0	20,800	780,000	524.3	.....
Moniteau	.....	2.4	.....	2,190.0	314	33,000	1,252.0	.....
Calloway	32.5	.....	1.2	3,060.3	11,900	691,300	262.0	14,700
Cole	.....	10.7	1.5	7,372.5	6,737	120,500	296.0	1,582
Osage	.....	18.7	1.2	1,337.6	.....	689,400	973.5	.....
Montgomery	.....	11.4	.....	569.0	7,804	1,100,000	888.2	.....
Gasconade	.....	33.7	6.2	5,340.0	34,428	491,500	221.0	.....
Warren	.....	3.6	8.7	232.0	142	812,000	171.2	.....
Franklin	.....	2.0	65.4	11,976.7	19,482	4,304,100	1,585.3	420
St. Charles	.....	10.7	28.6	2,682.5	6,700	538,600	329.0	7,980
St. Louis	1.2	3.5	1.7	255.0	450,000	150,000	1,000.0	420,185
Total	605.8	838.2	511.8	100,585.7	1,989,650	18,522,300	14,237 0	487,107
In tons	605.8	838.2	511.8	100,585.7	1,989,650	17,652.8	14,237.0	487,107

County.	Packing-house products.	Nursery stock.	Wool.	Liquid products.	Vegetables, fresh.	Fruits, fresh.	Fruits and vegetables, canned.	Honey and sorghum.
	Tons.	*Tons.*	*Tons.*	*Gallons.*	*Tons.*	*Tons.*	*Tons.*	*Gallons.*
Jackson	161.0	150.0	28.0	24,000	8,331.5	4,792.0	7.8	6,200
Clay	57.5	4.5	56.6	816,942	2,334.8	2,825.0	45.7	1,050
Ray	59.0	.....	10.0	2,006	7,987.5	2,165.6	.....	390
Lafayette	101.0	.....	15.8	281	76.0	13,045.0	225.0	48
Carroll	47.7	2.0	57.6	244	333.0	406.0	275.8	555
Saline	196.4	.....	61.0	5	37.4	708.0	1.0	258
Chariton	32.0	.....	94.0	3,000	184.0	423.0	.....	800
Howard	32.2	.....	102.0	8,615	49.0	6,449.0	344.6	308
Cooper	33.7	14.4	34.3	1,414	34.6	981.0	56.0	254
Boone	147.6	.....	163.5	620	75.8	1,588.6	191.2	2,565
Moniteau	33.8	.....	3.6	195	.....	118.5	100.0	369
Calloway	39.0	.....	77.8	10	11.8	612.0	10.4	197
Cole	13.8	.....	18.0	10	17.0	52.0	240.8	88
Osage	20.5	3.0	10.0	103	122.0	65.2	95.8	120
Montgomery	47.4	.....	50.4	140	22.0	279.5	.....	972
Gasconade	57.0	1.4	9.9	152,593	4.5	90.3	1.3	55
Warren	23.0	.....	2.0	.....	9.7	138.9	1.4	48
Franklin	120.0	362.6	12.3	139,000	28.7	388.6	40.2	310
St. Charles	98.7	.....	12.2	10,569	1,301.0	1,007.0	3.0	825
St. Louis	130.0	135.1	4.2	35,000	42,950.0	3,498.7	7.5	3,925
Total	1,451.3	673.0	823.1	1,194,747	63,910.3	41,573.9	1,647.5	19,337
In tons	1,451.3	673.0	823.1	4,181.6	63,910.3	41,573.9	1,647.5	77.3

EXHIBIT 14.—*Surplus shipments, 1912, of the 20 Missouri counties bordering on the Missouri River*—Continued.

County.	Eggs.	Junk.	Berries.	Miscellaneous.	Cordwood.	Corn cobs.	Walnut logs.	Plate glass.
	Dozen.	*Tons.*	*Crates.*	*Tons.*	*Cords.*	*Tons.*	*Tons.*	*Sq. feet.*
Jackson	1,500,000	1,260	4,200	350	15,000	.....	.....	.....
Clay	1,091,100	420	955	665	1,100	.....	.....	.....
Ray	969,760	320	110	45	444	.....	.....	.....
Lafayette	1,002,720	160	150	1,513	492	.....	.....	.....
Carroll	1,320,420	120	439	120	60	.....	.....	.....
Saline	942,550	15	83	2,351	60	2	.....	.....
Chariton	998,460	140	.....	83	1,514	.....	.....	.....
Howard	956,100	80	6,872	75	108	.....	.....	.....
Cooper	1,211,670	280	175	245	3,116	1,534	.....	.....
Boone	988,890	320	54	325	2,036	20	155,000.0	.....
Moniteau	1,271,750	.....	.....	9	1,020	.....	.....	.....
Calloway	490,560	180	10	.....	48	.....	.....	.....
Cole	306,540	380	487	1,740	2,784	.....	.....	.....
Osage	1,642,860	80	18	1,443	5,520	.....	.....	.....
Montgomery	2,120,430	160	139	26	72	.....	.....	.....
Gasconade	1,003,140	20	.....	20	1,176	.....	.....	.....
Warren	475,260	60	158	20	.....	260	.....	.....
Franklin	1,228,800	360	87	205	2,016	.....	1,001.0	.....
St. Charles	403,550	280	294	176	168	.....	115.5	.....
St. Louis	1,500,000	560	306,200	80	5,000	280	.....	2,295,265
Total	21,924,560	5,195	320,431	9,491	41,734	2,096	156,116.5	2,295,265
In tons	14,732	5,195	5,287	9,491	62,601	2,096	156,116.5	1,708.9

Grand total, 3,726,234.7 tons.

These counties contain an acreage under cultivation of 7,660,480, of the value of $513,896,536. This is not value of "land," but of "all farm property."

The figures are official, from the Missouri Bureau of Labor Statistics.

The figures for 1915 will show an increase.

The movement of this freight by river depends upon the establishment of landing and terminal facilities at local points. This is now proceeding rapidly under the encouragement of continuous improvement of the river.

RECENT GAIN OF MISSOURI RIVER CITIES IN GRAIN AND PRODUCTS AND HAY SHIPMENTS, COMMERCIAL DEVELOPMENT, INDUSTRIAL DEVELOPMENT, LIVE STOCK TRANSACTIONS, AND VALUE OF MANUFACTURED PRODUCTS.

EXHIBIT 15.—*Shipments from Kansas City for the past eight years.*

[Kansas City Board of Trade annual reports.]

Year.	Wheat.	Corn.	Kaffir corn.	Oats.	Rye.	Barley.	Total.	Hay.	Flour.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Tons.*	*Barrels.*
1907	28,864,500	12,644,500	No record.	7,413,000	76,650	179,300	49,177,950	97,032	1,820,250
1908	27,566,000	7,097,800	No record.	4,053,000	52,800	48,400	38,818,000	55,488	2,337,750
1909	25,272,500	9,357,550	No record.	5,853,000	53,900	123,200	40,660,150	40,264	2,205,450
1910	30,446,200	15,202,200	No record.	4,261,400	52,800	258,700	50,221,300	76,188	2,177,000
1911	17,980,000	14,075,600	1,208,928	4,576,200	70,400	375,200	38,196,328	83,424	1,515,500
1912	30,665,400	13,637,950	1,769,426	5,297,200	80,300	111,600	51,561,876	67,392	1,827,250
1913	21,622,800	12,860,000	1,747,000	7,707,100	242,200	44,800	44,223,900	82,512	2,038,250
1914	57,452,650	16,495,250	780,000	8,494,900	218,900	147,000	83,588,700	75,456	1,771,500

EXHIBIT 16.—*Omaha shipments.*

[Report of Omaha Grain Exchange, 1914.]

Year.	Wheat.	Corn.	Oats.	Rye.	Barley.	Total.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
1907	9,637,000	19,026,000	14,827,500	187,000	133,000	43,810,500
1908	11,450,000	10,325,000	12,958,500	168,000	160,000	35,061,500
1909	6,511,000	17,933,000	9,553,000	185,000	375,000	34,557,000
1910	5,482,000	19,707,000	8,098,000	168,000	206,000	33,661,000
1911	8,173,100	16,459,000	8,222,000	50,000	728,000	33,630,100
1912	12,180,600	15,913,300	14,013,000	56,000	318,000	42,480,900
1913	16,938,000	26,526,500	16,173,000	304,000	85,000	60,026,500
1914	16,696,000	31,927,500	18,030,000	512,000	69,000	67,234,500

EXHIBIT 17.—*Hay.*

Kansas City is the largest market and distributing point for hay in the world.

Is the largest primary alfalfa market.

Is the logical gateway from a railroad and geographical standpoint for the movement of the alfalfa produced in the seven greatest alfalfa-growing States, namely, Colorado, Idaho, Kansas, Nebraska, Montana, Oklahoma, and Wyoming.

Has facilities for properly inspecting and handling 700 cars of hay and alfalfa per day.

Hay receipts for five years:

Year.	Cars.	Tons.	Value.
1910	30,373	364,476	$2,551,332
1911	33,770	472,780	3,309,460
1912	36,180	506,520	3,545,640
1913	32,353	452,942	3,170,594
1914	26,341	303,132	2,121,924

Authority: Statistics presented in reserve bank hearing at Kansas City before the Federal Reserve bank organization committee January 23, 1914.

EXHIBIT 18.—*Statement showing grain elevators and storage capacity in bushels, year 1915, at Kansas City.*

[Authority, Kansas City Board of Trade.]

Name of elevator.	Storage capacity.	Name of elevator.	Storage capacity.
Acme	75,000	Bulte Mills	225,000
Alton	300,000	Globe Mill	50,000
Dixie	60,000	R. E. Kidder Flour Mills	120,000
Elevator A	5,500,000	Ismert-Hincke Milling Co	270,000
Elevator B	400,000	Kelley Milling Co	400,000
Empire	350,000	Kemper Mills	30,000
Frisco	600,000	K. C. Seed & Grain Co	50,000
K. C. S	800,000	Ransom's Warehouse	200,000
Kansas-Missouri	2,000,000	The Southwestern Milling Co	300,000
C. G. W	1,250,000	Weston Warehouse	25,000
Memphis	450,000	Zenith Mills	50,000
Milwaukee	2,900,000	Katy Mills	100,000
Murray	1,500,000	Olive St. Elevator	20,000
Rock Island	100,000	Schilling Warehouse	25,000
Rosedale	150,000	Imperial Mill & Warehouse	80,000
Russell	50,000	Kornfalfa Feed Milling Co	20,000
M., K. & T	40,000	Norris Elevator	900,000
Terminal	2,500,000	Moss Grain Co	50,000
Wabash	350,000		
Atlas Oats Co	25,000	Total	22,315,000

EXHIBIT 19.—*Statement showing grain elevators and storage capacity in bushels, year 1915, Omaha.*

[Omaha Grain Exchange Annual Report, 1914.]

Operator.	Location.	Capacity (bushels).
Omaha Elevator Co	Council Bluffs, Iowa	1,500,000
Nye-Schneider-Fowler Grain Co	Omaha, Nebr	1,250,000
Trans-Mississippi Grain Co	Council Bluffs, Iowa	800,000
Merriam & Millard Co., A	Omaha, Nebr	600,000
Updike Elevator Co	South Omaha, Nebr	600,000
Holmquist Elevator Co	Omaha, Nebr	450,000
Nebraska-Iowa Grain Co	Gibson Station (Omaha)	400,000
Crowell Elevator Co	Omaha, Nebr	350,000
Gate City Malt Co	South Omaha, Nebr	300,000
Cavers-Sturtevant Co	Council Bluffs, Iowa	250,000
Van Wickle Grain & Lumber Co	do	175,000
Maney Milling Co	Omaha, Nebr	125,000
Merriam & Millard Co., C	Council Bluffs, Iowa	125,000
M. C. Peters Mill Co	South Omaha, Nebr	100,000
Iowa Elevator Co	Council Bluffs, Iowa	75,000
Omaha Alfalfa Milling Co	Omaha, Nebr	60,000
J. F. Twamley Son & Co	do	40,000
Total capacity		7,200,000

MILLING FACILITIES.

[Reports of Kansas City Board of Trade and Omaha Grain Exchange.]

Maney Milling Co.: Flour capacity, 1,500 barrels per day.
Updike Milling Co.: Flour capacity, 500 barrels per day.
M. C. Peters Mill Co.: Alfalfa meal capacity, 600 tons per day.
Omaha Alfalfa Milling Co.: Alfalfa meal capacity, 500 tons per day.

EXHIBIT 20.—*Statement showing development of Kansas City, Mo., since 1905.*

[Source, Kansas City Board of Trade.]

	1905	1911	1912	1913	1914
Assessed valuation	$97,128,370	$166,792,892	$177,816,892	$188,636,451	$195,214,683
City receipts	$1,385,000	$2,650,000	$2,800,000	$2,900,000	$2,825,000
City expenditures	$1,385,000	$2,650,000	$2,800,000	$2,900,000	$2,825,000
Municipal debt	$5,036,900	$3,785,000	$3,577,000	$4,177,000	$4,177,000
Real estate transfers	$36,709,300	$40,590,029	$38,557,563	$31,147,116	$24,503,685
Building permits	4,441	4,638	4,544	3,719	3,253
Cost buildings erected	$10,917,024	$13,310,791	$12,396,328	$10,578,162	$10,204,970
Post-office receipts	$1,400,838.46	$2,421,541.82	$2,499,411.24	$2,805,726.82	$2,997,307.87
Mail matter handled	296,481,883	404,502,979	443,533,287	377,507,152	415,257,867
Internal-revenue receipts	$935,559.47	$1,841,586.62	$1,756,427.62	$1,793,094.34	$2,412,717.64
Banking capital	[1] $10,901,610	$21,934,944	$22,250,982	$23,170,457	$23,305,907
Bank clearings	$1,197,905,556	$2,578,730,359	$2,713,027,916	$2,850,362,611	$3,015,810,567
Bushels grain handled	69,599,500	50,689,628	72,991,900	68,588,950	105,231,050
Packing animals slaughtered	4,812,422	6,332,409	5,839,616	5,664,580	4,910,411

[1] Includes surplus and undivided profits, 1905 and subsequent year.

EXHIBIT 21.—*Live-stock transactions, 1914, at principal markets.*

[Statistical Abstract United States, 1914, pp. 293–294.]

Received at—	Cattle and calves.	Hogs.	Sheep.	Total head.
Kansas City	1,956,651	2,264,805	2,002,042	6,223,498
Omaha	938,817	2,258,620	3,113,889	6,311,326
St. Joseph	355,535	1,725,366	830,256	2,911,157
Sioux City	367,917	1,256,679	403,927	2,028,523
Total for Missouri River cities	3,618,920	7,505,470	6,350,114	17,474,504
Wichita	201,836	418,213	25,899	645,948
Oklahoma City	278,470	428,260	35,708	742,438
Denver	442,738	256,636	692,247	1,391,621
Chicago	2,601,495	6,618,166	5,378,345	14,598,006
St. Louis	1,040,957	2,558,825	749,293	4,349,075
St. Paul	585,165	1,589,630	794,739	2,969,534
Cincinnati	289,762	921,204	444,829	1,655,795
Cleveland	110,332	670,351	295,026	1,075,709
Indianapolis	344,245	2,099,787	124,591	2,568,623
Total other than Missouri River	5,895,000	15,561,072	8,540,677	29,996,749
Total all markets	9,513,920	23,066,542	14,890,791	47,471,253
Received at Missouri River points (per cent)	39.9	32.36	42.8	36.8

EXHIBIT 22.—*Kansas City jobbing business.*

The sales of Kansas City merchants in thirty-odd lines during the year 1913, aggregating $201,875,000, were distributed, almost exclusively, in the States all or parts of which are included in the district outlined as Greater Kansas City's natural banking territory, and on the following basis:

Arkansas (5 per cent)	$10,093,750	New Mexico (1½ per cent)	$3,028,125
Colorado (7 per cent)	14,131,250	Oklahoma (21 per cent)	42,393,750
Kansas (32 per cent)	64,600,000	Texas (6 per cent)	12,112,500
Missouri (24 per cent)	48,450,000		
Nebraska (3½ per cent)	7,065,625	Total (100 per cent)	201,875,000

STATEMENT OF SALES.

Electrical equipment	$5,500,000	Cigars	$10,000,000
Machinery supplies	2,500,000	Groceries	18,000,000
Fruits and vegetables	5,000,000	Drugs	5,500,000
Butter and eggs	5,000,000	Shoes	6,000,000
Sporting goods	1,500,000	Furnishing goods	500,000
Paint	2,000,000	Furniture	4,000,000
Liquors and brewery products	20,000,000	Building materials	4,000,000
Chemicals	2,000,000	Plate and window glass	1,250,000
Plumbing	4,000,000	Jewelry	2,225,000
Dry goods	13,000,000	Iron and steel	2,000,000
Automobiles	28,000,000	Clothing	250,000
Automobile accessories	5,000,000	China and glass ware	500,000
Agricultural implements and vehicles	36,000,000	Miscellaneous	10,750,000
Hardware	4,000,000		
Paper	3,400,000		201,875,000

These figures are fairly representative, but do not include many of the most extensive lines for the reason that those lines do a big business outside the bounds of the prescribed territory.

Authority statistics presented in reserve-bank hearing at Kansas City before the Federal Reserve Bank Organization Committee, January 23, 1914.

EXHIBIT 23.—*Four-year growth Kansas City industrials.*

NEW FACTORIES, FISCAL YEAR 1911-12.

Name.	Address.	Capital.	Employees.
Southwestern Blaugas Co	Indep. Road and Blue River	$500,000	59
Hydrozo Paint Manufacturing Co	333 Southwest Boulevard	20,000	5
Samuel Dodsworth Book Co	1121 Holmes Street	.....	.....
C. W. Daugherty Manufacturing Co	537 Grand Avenue	.....	.....
Anti-Toxin Serum Farm and Laboratory	Eighty-fifth and Holmes Streets.	.....	.....
United States Stock Food Co	Twenty-first and Manchester.	75,000	15
Stevens Grease & Oil Co	Thirty-first and Wyoming	.....	15

NEW FACTORIES, FISCAL YEAR 1912-13.

Prest-O-lite Co	Eleventh and Charlotte, North Kansas City.	$800,000	12
King Foundry Co. (Kansas City Hay Press Co.)	Foot Fourth Street Viaduct	.....	.....
Kalamazoo Tank & Silo Co	Fifteenth and Charlotte, North Kansas City.	.....	.....
Hooven & Allison	North Kansas City	.....	500
National Terra Cotta Co	Sixteenth and Oakland	50,000	51
Tarkio-Champion Feed Co	536 Live Stock Exchange	30,000	25–40
Illinois Silo Co	North Kansas City	200,000	25–50
Baum Brass & Model Works	1908 Wyandotte	4,000	9
Burlington Overall Co	808 Broadway	50,000	70
Edwards Metal Structures Co	4023 Mill Street	50,000	7
Atlas Specialty Co	1212 East Ninth Street	.....	.....
Linde Air Products Co	North Kansas City	.....	.....
Cement Stave Silo Co	Cookson Avenue and the Blue.	.....	.....
Diamond Concrete Stave Silo Co	East Bottoms	6,000	10–100
Franklin Feather Co	8–10 East Third Street	5,000	21
Coca-Cola Co. (bottling plant)	Twenty-first and Grand	.....	.....
Missouri Staple Cement Products Co	Blue Valley	.....	.....
Armour & Co. (woolpulling plant)	Kansas City, Kans.	.....	250
Automatic Machine Manufacturing Co	310–316 West Twentieth Street.	35,000	19
Jiffy-Jell Pure Food Co	1015 East Twenty-fifth Street	5,000	14

NEW FACTORIES, FISCAL YEAR 1913-14.

Name.	Capital.	Employees.	Name.	Capital.	Employees.
L. Galler & Co	.....	.....	Leader Fly Trap Mfg. Co	1,000	3
Valentine Hat Co	$25,000	100	Geiger-Fishback Co	.....	.....
Michael McTernan Brick Co	.....	.....	Sawyer Mfg. Co	.....	.....
Hercules Spring Bed Co	.....	.....	Continental Mfg. Co	2,000	.....
Talbot Reel Mfg. Co	40,000	11	Alpine Ice Co	.....	.....
K. C. Fiber Box Co	.....	.....	Serum Plant, Armour Packing Co	.....	.....
Missouri Combination Case Co	.....	.....	Moon Mfg. Co	.....	.....
Kraker Pen Co	.....	.....	Oxygen Gas Co	100,000	3
Morris-Blodgett Drop Forge & Tool Co	100,000	40	R. R. Allen & Co	3,000	30

EXHIBIT 23.—*Four year growth Kansas City industrials*—Continued.

NEW FACTORIES, FISCAL YEAR 1914-15.

Name.	Capital.	Employees.	Name.	Capital.	Employees.
Philadelphia Quartz Co	.....	10	McCargar Feed Mill Co	.....	30
Great Western Toy & Novelty Co	$35,000	30	Success Silo Co	.....	.....
San O Zone Chemical Co	2,000	3	Perfek Device Co	$10,000	10
Waxide Parchment Paper Co.	50,000	16	Sweeney Tractor Co	30,000	52
Will Campbell Baking Co	300,000	95	Ideal Mfg. Co. (office 524 Midland Bldg.)	100,000	150
Cleveland Steel Barrel Co	10,000	20	Automatic Bookkeeping Register Co	.....	.....
Associated Glass Workers	3,000	10	Kansas City Radiator Co	.....	.....
Berry-Wood Piano Co. (returned)	24,000	27	Fackert Shirt Co	.....	.....
P. W. Hanicke (Inc.)	10,000	20	Kansas City Tire & Rubber Co	.....	.....
J. L. Jones Mfg. Co. (office 412 N. E. Bldg.)	25,000	12	H. L. Lee Mercantile Co	.....	.....

EXHIBIT 24.—*Kansas City flour output.*

[Reports of Kansas City Board of Trade. Millers' Almanac, 1915.]

	Barrels.
1907	1,974,949
1908	2,577,577
1909	2,427,376
1910	2,226,266
1911	1,822,257
1912	2,080,268
1913	2,294,617
1914	2,376,840
Corn meal	107,250
Oatmeal	23,460
Total mill output, 1914	2,507,550
Daily capacity of Kansas City mills	14,250

Value of manufactured products in Kansas City.

	Total gross value.
1899	[1] $103,612,000
1904	[1] 131,046,000
1909	[1] 218,786,000
1914	[2] 319,428,000

RECENT GAIN IN RAILROAD MILEAGE IN MISSOURI RIVER STATES; RAILROAD FREIGHT TONNAGE TO, FROM, AND THROUGH MISSOURI RIVER CITIES; RAILROAD FREIGHT REVENUE TO, FROM, AND THROUGH MISSOURI RIVER CITIES; MILES OPERATED, DENSITY OF TONNAGE, TONS PER TRAIN-MILE, AVERAGE DISTANCE HAUL, AVERAGE RECEIPTS PER TON-MILE AND PER TON OF MISSISSIPPI RIVER-MISSOURI RIVER RAILROADS.

EXHIBIT 25.—*Table showing increase in railroad mileage.*

[Page 263, Statistical Abstract of the United States.]

	1890	1900	1910	1913
Missouri	6,004.10	6,875.04	8,082.74	8,153.48
Kansas	8,806.45	8,719.36	9,006.88	9,257.08
Oklahoma	167.96	827.88	5,980.22	6,356.68
Nebraska	5,295.35	5,684.85	6,067.15	6,142.17
Iowa	8,355.97	9,185.18	9,754.68	9,916.50
South Dakota	2,485.89	2,849.83	3,947.65	4,205.80
North Dakota	1,940.64	2,731.22	4,201.07	5,032.54
Montana	2,181.04	3,010.32	4,207.42	4,497.29
Total	25,237.40	39,883.68	51,247.81	53,561.54
Eight States' increase over preceding period (per cent)	.....	58	28.5	4.5
Total, United States	167,191.00	198,964.00	249,992.00	251,984.00
Per cent	.....	19	25.6	0.8

[1] United States Census Report, Thirteenth Decennial Census, 1910.
[2] State of Missouri Bureau of Labor Statistics.

EXHIBIT 26.—*Actual rail movement, carload freight traffic (net tons) eastbound from Missouri River cities and via them from Nebraska and Kansas, year 1914.*

[Authority: Joint agent for carriers, Kimball Exhibit No. 1, Interstate Commerce Commission I. & S. Docket No. 555 (35 I. C. C. Rep., 497).]

FROM AND VIA KANSAS CITY.

Destined.	Wheat.	Corn.	Oats, rye, barley.	Flour.	Meal, bran, chops.	Fresh meat, beef, pork, mutton.	Packing-house products, boxed and loose.	Lard, tallow, grease, oil.	Fertilizer, bones, horns, hoofs.	Hides, hair.	Seeds, castor beans.	Hay, broom corn.	Junk, scrap iron.	Lead, spelter, bullion, acid.	Potatoes, apples.	Fuel-oil, naphtha.	Miscellaneous.
Chicago and Milwaukee	254,628	4,787	3,397	31,840	5,499	41,436	11,492	2,757	2,907	7,327	510	4,312	2,280	3,094	690	20,858	32,006
Minneapolis, St. Paul, and Lake Superior ports	294,804	724	30	840	228	4,908	238	85	.....	.....	720	44	165	130	123	26,443	13,156
St. Louis	87,444	5,643	3,120	9,480	13,072	3,948	2,278	1,139	712	1,054	360	13,134	4,365	442	521	8,669	23,790
Mississippi River, Illinois and Wisconsin points	139,248	4,960	1,262	87,100	22,496	26,460	5,457	119	85	1,020	240	22,660	7,335	20,514	1,242	73,822	34,658
Middle States and seaboard	322,920	12,037	1,967	155,200	33,459	222,392	9,537	1,581	850	15,589	1,065	3,102	795	1,586	276	6,221	20,722
Mississippi Valley	288	6,203	1,907	10,000	9,025	780	10,404	408	272	.....	.....	8,085	.....	.....	1,058	153	1,872
Southeast	6,084	5,965	7,390	9,740	11,058	1,668	31,042	119	8,364	1,530	1,155	8,547	.....	286	153	51	1,820
Memphis	1,548	5,372	4,351	880	1,976	1,464	5,032	98	.....	.....	180	7,744	.....	.....	2,024	25	494
Export:																	
Atlantic ports	6,804	.....	238	33,340	.....	.....	20,808	12,308	.....	153	195	.....	.....	52	.....	.....	78
Gulf ports	431,676	233	3,457	19,660	152	.....	1,564	12,410	153	.....	.....	.....	.....	.....	15	.....	2,106
Total	1,545,444	45,924	27,119	358,080	96,965	303,056	97,852	31,024	13,343	26,673	4,425	67,628	14,940	26,104	6,102	136,242	130,702

Total, 2,931,623 net tons.

FROM AND VIA ST. JOSEPH, ATCHISON, AND LEAVENWORTH.

Chicago and Milwaukee	26,028	366	30	8,900	1,064	27,484	12,410	3,910	1,071	2,040	90	341	345	.....	215	.....	6,968
Minneapolis, St. Paul, and Lake Superior ports	2,844	.....	.....	980	361	252	425	.....	.....	17	15	22	285	.....	1,396	.....	676
St. Louis	4,392	2,033	60	6,220	8,835	1,632	2,754	272	68	238	225	407	1,335	.....	.....	.....	4,368
Mississippi River, Illinois, and Wisconsin points	7,812	300	.....	6,480	5,149	1,548	357	34	.....	493	75	704	915	.....	183	.....	3,900
Middle States and seaboard	576	433	.....	10,660	5,947	86,280	7,735	561	221	4,012	375	297	105	.....	.....	.....	3,276
Mississippi Valley	36	1,000	60	6,700	2,793	1,152	4,182	.....	17	34	30	286	.....	.....	.....	.....	182

EXHIBIT 26.—*Actual rail movement, carload freight traffic (net tons) eastbound from Missouri River cities and via them from Nebraska and Kansas, year 1914*—Continued.

FROM AND VIA ST. JOSEPH, ATCHISON, AND LEAVENWORTH—Continued.

Destined.	Wheat.	Corn.	Oats, rye, barley.	Flour.	Meal, bran, chops.	Fresh meat, beef, pork, mutton.	Packinghouse products, boxed and loose.	Lard, tallow, grease, oil.	Fertilizer, bones, horns, hoofs.	Hides, hair.	Seeds, castor beans.	Hay, broom corn.	Junk, scrap iron.	Lead, spelter, bullion, acid.	Potatoes, apples.	Fuel oil, naphtha.	Miscellaneous.
Southeast	3,672	3,434	2,950	10,440	4,465	996	9,044	17	2,125	425	255	11	.....	.....	.....	.....	338
Memphis	.....	33	30	700	1,463	.....	85	.....	.....	.....	15	22	.....	.....	.....	.....	52
Export:																	
Atlantic ports	1,080	.....	.....	2,020	.....	.....	5,066	3,910	.....	816	135	.....	.....	.....	15	.....	494
Gulf ports	8,280	1,500	150	680	.....	.....	2,176	16,252	.....	.....	.....	.....	.....	.....	.....	.....	780
Total	54,720	9,099	3,280	53,780	30,077	119,344	44,234	24,956	3,502	8,075	1,215	2,090	2,985	.....	1,809	.....	21,034

Total, 380,200 net tons.

FROM AND VIA OMAHA, SOUTH OMAHA, AND COUNCIL BLUFFS.

Chicago and Milwaukee	350,028	4,133	16,850	7,260	5,053	23,616	10,523	11,475	1,088	10,336	45	66	1,170	11,778	736	.....	5,226
St. Louis	19,440	43,367	34,000	2,900	8,360	1,776	3,961	272	153	136	45	418	840	11,310	46	.....	1,300
Mississippi River (proper)	24,948	16,067	51,027	2,280	3,928	9,156	4,386	629	.....	102	.....	77	1,380	2,886	77	.....	5,122
Minneapolis, St. Paul, and Lake Superior points	18,324	67	120	140	247	2,424	153	34	.....	153	15	220	405	442	77	.....	5,226
Illinois	3,060	18,700	2,116	7,480	19,380	8,316	374	51	.....	68	15	.....	2,430	12,792	.....	.....	2,756
Wisconsin	1,800	67	.....	7,420	684	2,784	34	.....	.....	408	.....	.....	825	104	.....	.....	1,352
Middle States	1,440	1,466	6,079	3,380	2,880	5,616	850	799	170	1,904	135	.....	210	7,488	.....	.....	2,496
Seaboard	5,544	333	745	9,900	33,953	163,992	14,552	969	255	6,273	30	22	180	52,676	567	.....	1,352
Southeast and Mississippi Valley	3,276	11,367	25,926	2,520	31,217	5,136	17,850	578	4,335	1,377	15	.....	15	364	.....	.....	2,028
Export:																	
Atlantic ports	92,556	.....	4,310	3,720	437	852	7,769	8,313	.....	204	.....	.....	.....	.....	15	.....	702
Gulf ports	12,348	1,300	10,013	2,860	76	.....	2,652	2,516	.....	51	.....	.....	.....	.....	.....	.....	26
Total	532,764	96,867	151,186	49,860	106,215	223,668	63,104	25,636	6,001	21,012	300	803	7,455	99,840	1,518	.....	27,586
Grand total	2,132,928	151,890	181,585	461,720	233,257	646,068	205,190	81,616	22,846	55,760	5,940	70,521	25,380	125,944	9,429	136,242	179,322

Total, 1,413,815 net tons; grand total, 4,725,638 net tons.

EXHIBIT 26.—*Actual rail movement, carload freight traffic (net tons) eastbound from Missouri River cities and via them from Nebraska and Kansas year 1914*—Continued.

KANSAS CITY TONNAGE.

Commodity.	Per cent.	Commodity.	Per cent.
Wheat	52.76	Seeds, etc	0.01
Corn	1.61	Hay, broom corn	2.31
Oats, rye, barley	1.00	Junk, scrap iron	.5
Flour	12.26	Lead, spelter, etc	.9
Meal, bran, chops	3.31	Potatoes, apples	.02
Fresh meat, etc	10.40	Fuel oil, naphtha	4.65
Packing-house products	3.34	Miscellaneous	4.46
Lard, tallow, etc	1.06		
Fertilizer, etc	.5	Total	100.00
Hides, hair	.91		

62.03 per cent of grand total.

EXHIBIT 26—(*Extended arbitrarily*).—*Comparative classified tonnage and revenue rail freight (excluding live stock, dressed or fresh meats, and packing-house products) 1906 and 1914.*

YEAR 1906.

From, to, and through.[1]	Tons.		Revenue.	
	East and export.	West.	East.	West.
From and to lower Missouri River cities	1,681,873	1,182,288	$3,016,901.50	$5,344,431.70
From and to Kansas and southern Nebraska	373,568	522,090	$1,164,461.01	$2,041,844.84
Total	2,055,441	1,704,378	$4,181,362.51	$7,386,276.54
Per cent of total	54.67	45.33	36.15	63.85
Grand total	3,759,819	.....	$11,567,639.05	.....

YEAR 1914.

Kansas City	[2] 2,530,715	[3] 2,098,359	[4] $5,588,809.13	[4] $9,872,358.58
St. Joseph, Atchison, and Leavenworth	216,622	179,613		
Total	2,747,337	2,277,972	[4] $5,588,809.13	[4] $9,872,358.58
Per cent of total	54.67	45.33	36.15	63.85
Gain over 1906	691,896	573,594	$1,407,446.62	$2,486,082.04
Grand total	5,025,309	.....	$15,461,167.71	.....

[1] Originating in and destined to lower Missouri River cities, southern Nebraska, and State of Kansas.
[2] 2,652,318 tons east and west in 1906. Per cent, 95.42. Appendix C, H. Doc. No. 1120, 60th Cong, 2d sess.
[3] Projected upon 1906 relationship east and west tonnage.
[4] Projected upon 1914–1906 tonnage ratios.

TWENTY PER CENT OF 1914 KANSAS CITY TONNAGE.

(Estimated to go via completed river.)

	Tons.	Revenue.	Boat line revenue (80 per cent).
Eastbound	506,143	$102,834	$92,267
Westbound	587,672	187,651	145,320
Total	1,087,815	284,485	237,587
Estimated year 1922, based on 1914 gain over 1906 of 75 per cent	1,903,676	497,848	398,278

EXHIBIT 27.—*Movement of walnut lumber and logs for export from southwestern Missouri River.*

Lines.	Via Gulf ports.		Via South Atlantic ports.		Total.	
	Tons.	*Per cent.*	*Tons.*	*Per cent.*	*Tons.*	*Per cent.*
Atchison, Topeka & Santa Fe	464	14.5	.....	.....	464	8.9
Chicago & Alton	914	28.6	294	14.6	1,208	23.2
Chicago, Burlington & Quincy	628	19.7	[1] 771	38.4	1,399	26.9
Chicago Great Western	.....	.....	[2] 744	37.1	744	14.3
Chicago, Milwaukee & St. Paul	.....	.....	.....	.....	.....	.....
Chicago, Rock Island & Pacific	.....	.....	.....	.....	.....	.....
Kansas City Southern	960	30.1	.....	.....	760	18.5
Missouri, Kansas & Texas	170	5.3	.....	.....	170	3.3
Missouri Pacific	.....	.....	92	4.6	92	1.8
Quincy, Omaha & Kansas City	.....	.....	.....	.....	.....	.....
St. Louis & San Francisco	.....	.....	.....	.....	.....	.....
Wabash	57	1.8	107	5.3	164	3.1
Total	3,193	100.0	2,008	100.0	5,201	100.0

[1] 26 tons via New York.

[2] Via Montreal.

TOTAL, VIA GULF AND SOUTH ATLANTIC PORTS, COMPARATIVE, 1905 AND 1906.

(This exhibit is reproduction of exhibit in Burnham-Hanna-Munger case before U. S. Supreme Court Interstate Commerce Commission *v.* C., R. I. & P. Ry., 218 U. S., 88.)

Lines.	1905		1906	
	Tons.	*Per cent.*	*Tons.*	*Per cent.*
Atchison, Topeka & Santa Fe	242	4.6	464	8.9
Chicago & Alton	204	4.1	1,208	23.2
Chicago, Burlington & Quincy	3,083	61.3	1,399	26.9
Chicago Great Western	.....	.....	744	14.3
Chicago, Milwaukee & St. Paul	.....	.....	.....	.....
Chicago, Rock Island & Pacific	466	9.3	.....	.....
Kansas City Southern	177	3.5	960	18.5
Missouri, Kansas & Texas	.....	.....	170	3.3
Missouri Pacific	284	5.6	92	1.8
Quincy, Omaha & Kansas City	.....	.....	.....	.....
St. Louis & San Francisco	328	6.5	.....	.....
Wabash	248	4.9	164	3.1
Total	5,032	100.0	5,201	100.0

EXHIBIT 28.—*Eastbound tonnage and revenue on traffic from and through southwestern Missouri River points during the year 1906.*

[This exhibit is reproduction of exhibit in Burnham-Hanna-Munger case before United States Supreme Court, Interstate Commerce Commission *v.* C., R. I. & P. Ry., 218 U. S., 88.]

Lines.	First class.	Second class.	Third class.	Fourth class.	Apples.	Bones, hoofs, horns, fertilizer, tankage.	Butter, eggs, and dressed poultry.	Broom corn.	Grain.	Grain products.	Cement, plaster, etc.	Hay.	Oil, cotton-seed.	Oil, petroleum.	Ore, bullion, and pig lead.
Atchison, Topeka & Santa Fe	546	322	229	444	93	249	1,365	42	79,235	32,084	22	874	749	10,749	.....
Chicago & Alton	711	348	399	783	63	2,875	1,224	61	86,544	49,835	570	1,142	60	3,527	.....
Chicago, Burlington & Quincy	1,919	1,226	1,248	3,056	1,767	7,603	3,808	50	91,299	103,200	292	4,213	517	8,381	.....
Chicago Great Western	458	548	704	1,011	1,118	3,590	2,350	.....	114,202	17,238	.....	727	15	17,597	.....
Chicago, Milwaukee & St. Paul	673	398	345	1,725	259	580	361	109	170,585	26,962	15	3,231	29	6,675	487
Chicago, Rock Island & Pacific	563	198	769	702	273	1,512	1,771	79	65,495	77,475	20	1,262	1,423	7,648	.....
Kansas City Southern	11	25	28	52	12	70	11	.....	66,619	12,281	.....	559	.....	.....	.....
Missouri, Kansas & Texas	7	3	2	69	12	596	13	.....	42,176	1,021	.....	195	517	25	97
Missouri Pacific	696	425	323	1,009	943	12,015	1,272	9	139,853	63,920	935	8,490	.....	894	.....
Quincy, Omaha & Kansas City	16	1	1	.....	.....	2,825	.....	.....	430	15	.....	13	24	30	.....
St. Louis & San Francisco	492	1,310	472	3,622	290	5,468	58	8	53,589	13,391	.....	4,518	92	349	284
Wabash	939	320	402	1,122	49	4,939	542	387	46,046	47,909	131	523	.....	3,029	462
Total	7,031	5,124	4,913	13,595	4,879	42,322	12,775	745	956,073	445,331	1,985	25,747	3,426	58,904	1,330

EXHIBIT 28.—*Eastbound tonnage and revenue on traffic from and through southwestern Missouri River points during the year 1906*—Continued.

Lines.	Potatoes.	Rags and junk.	Salt.	Scrap iron.	Soap.	Spelter.	Vitriol.	Miscellaneous.	Total, classified freight.				Live stock.			
									Tons.	Per cent.	Revenue.	Per cent.	Tons.	Per cent.	Revenue.	Per cent.
Atchison, Topeka & Santa Fe	86	229	20	102	150	.....	1,039	2,621	131,241	7.8	$244,452.56	8	24,565	9.3	$742.31	8.7
Chicago & Alton	361	113	33	2,632	199	.....	136	5,509	157,125	9.4	267,528.63	8.9	42,740	16.1	129,881.04	15.3
Chicago, Burlington & Quincy	172	2,048	.....	5,657	689	550	183	9,044	246,922	14.7	481,669.03	16	59,678	22.5	202,526.01	23.8
Chicago Great Western	196	1,781	.....	316	454	.....	.....	3,054	165,359	9.8	330,970.96	10.9	941	.3	3,206.64	.4
Chicago, Milwaukee & St. Paul	1,596	1,052	.....	261	1,630	20	.....	8,836	225,829	13.4	382,231.45	12.7	22,930	8.7	13,081.95	8.6
Chicago, Rock Island & Pacific	1,523	642	.....	2,884	687	.....	.....	7,037	171,963	10.2	313,037.09	10.4	8,304	3.1	27,119.14	3.2
Kansas City Southern	14	.....	.....	.....	.....	.....	.....	66	79,784	4.8	113,590.27	3.7	.....	.....	.....	.....
Missouri, Kansas & Texas	.....	52	.....	331	76	60	.....	758	46,010	2.7	69,122.76	2.3	12	.....	59.16	.....
Missouri Pacific	452	299	25	2,607	145	.....	4,703	5,474	244,489	14.5	409,860.50	13.6	27,146	10.2	85,840.00	10.1
Quincy, Omaha & Kansas City	.....	.....	.....	20	.....	.....	.....	9	3,384	.2	7,505.91	.2	.....	.....	.....	.....
St. Louis & San Francisco	237	35	.....	468	156	.....	5,886	447	91,172	5.4	180,092.15	6	5,737	2.2	24,782.09	2.9
Wabash	490	988	199	2,704	729	50	2,893	3,778	118,631	7.1	217,740.19	7.2	73,047	27.6	229,118.72	27
Total	5,127	7,239	277	17,982	4,915	680	14,840	46,633	1,681,873	100	3,016,901.50	100	265,100	100	849,848.85	100

Lines.	Dressed or fresh meats.				Packing-house products.				Grand total.			
	Tons.	Per cent.	Revenue.	Per cent.	Tons.	Per cent.	Revenue.	Per cent.	Tons.	Per cent.	Revenue.	Per cent.
Atchison, Topeka & Santa Fe	8,277	1.4	$30,625.51	1.4	24,092	6.6	$89,146.73	6.6	188,175	6.5	$438,455.90	5.9
Chicago & Alton	78,322	13.4	289,711.24	13.4	28,497	7.8	195,443.28	7.8	306,684	10.6	792,567.19	10.7
Chicago, Burlington & Quincy	218,143	37.2	807,130.49	37.2	89,595	24.5	331,504.46	24.6	614,338	21.2	1,822,829.99	24.7
Chicago Great Western	107,254	18.3	396,742.31	18.3	66,025	18.1	244,297.70	18.1	339,579	11.7	974,317.61	13.2
Chicago, Milwaukee & St. Paul	82,410	14.1	304,919.60	14.1	14,868	4.1	55,005.98	4.1	346,037	11.9	815,238.98	11

Chicago, Rock Island & Pacific	16,409	2.8	60,716.07	2.8	11,500	3.2	42,555.39	3.1	208,176	7.2	443,427.69	6
Kansas City Southern	173	.....	641.21	.....	3,253	.9	12,032.56	.9	83,174	2.9	126,264.04	1.7
Missouri, Kansas & Texas	.....	.....	.....	.....	2,752	.8	10,183.80	.7	48,774	1.7	79,365.72	1.1
Missouri Pacific	16,113	2.7	59,617.88	2.7	38,808	10.6	143,588.51	10.6	326,556	11.3	698,906.89	9.5
Quincy, Omaha & Kansas City	.....	.....	.....	.....	259	.1	956.65	.1	3,643	.1	8,462.56	.1
St. Louis & San Francisco	19,649	3.4	72,705.18	3.4	40,665	11.1	150,456.32	11.1	157,223	5.4	428,035.74	5.8
Wabash	39,337	6.7	145,544.63	6.7	44,711	12.2	165,438.75	12.3	275,726	9.5	757,842.29	10.3
Total	586,087	100	2,168,354.12	100	365,025	100	1,350,610.13	100	2,898,085	100	7,385,714.60	100

FROM JUNCTION POINTS IN KANSAS AND NEBRASKA, ON OR SOUTH OF THE BEATRICE LINE.

Lines.	First class.	Second class.	Third class.	Fourth class.	Apples.	Bones, hoofs, horns, fertilizer, tankage.	Butter, eggs, and dressed poultry.	Broom corn.	Cement and plaster.	Hay.	Oil.	Ore, bullion, and pig lead.
Atchison, Topeka & Santa Fe	595	392	218	1,443	194	84	9,054	836	730	759	.....	.....
Chicago & Alton	85	13	50	89	.....	.....	593	27	2,176	286	.....	.....
Chicago, Burlington & Quincy	124	77	65	133	483	15	487	54	8,200	395	16	22
Chicago Great Western	12	9	11	73	1,185	.....	464	8	261	95	265	.....
Chicago, Milwaukee & St. Paul	53	16	84	106	24	15	120	116	663	384	260	180
Chicago, Rock Island & Pacific	240	184	180	347	158	169	4,370	422	360	1,122	676	494
Kansas City Southern	.....	.....	.....	.....	.....	.....	11	.....	.....	41	.....	.....
Missouri, Kansas & Texas	148	88	50	277	26	.....	1,639	.....	190	941	847	10,118
Missouri Pacific	312	222	110	263	84	982	3,322	193	11,336	546	58,017	25
Quincy, Omaha & Kansas City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Louis & San Francisco	238	236	55	316	160	166	1,555	67	5,765	536	52,823	2,460
Wabash	55	11	25	118	67	65	1,540	125	4,595	207	.....	.....
Total	1,862	1,248	848	3,165	2,381	1,496	23,155	1,848	34,276	5,312	112,904	13,299

EXHIBIT 28.—*East bound tonnage and revenue on traffic from and through southwestern Missouri River points during the year 1906*—Continued.

FROM JUNCTION POINTS IN KANSAS AND NEBRASKA, ON OR SOUTH OF THE BEATRICE LINE—Continued.

Lines.	Potatoes.	Rags and junk.	Salt.	Scrap iron.	Spelter	Vitriol.	Miscellaneous.	Total, classified freight.				Live stock.			
								Tons.	Per cent.	Revenue.	Per cent.	Tons.	Per cent.	Revenue.	Per cent.
Atchison, Topeka & Santa Fe.	166	121	1,530	264	1,350	66	1,916	19,718	5.3	$107,680.48	9.2	1,839	22.9	$5,617.98	18.3
Chicago & Alton	12	.....	.....	197	570	.....	290	4,388	1.2	17,523.91	1.5	152	1.9	601.49	2
Chicago, Burlington & Quincy	40	30	73	621	2,993	99	855	14,782	4	46,138.30	4	1,334	16.6	5,251.65	17
Chicago Great Western	35	.....	1,722	.....	245	.....	597	4,982	1.3	17,259.39	1.5	.....	.....	.....	.....
Chicago, Milwaukee & St. Paul	114	150	44	57	2,689	.....	6,356	11,400	3.1	26,702.05	2.3	53	.6	199.35	.7
Chicago, Rock Island & Pacific	81	397	60	626	1,420	.....	1,873	13,179	3.5	60,720.34	5.2	910	11.3	3,208.20	10.5
Kansas City Southern	.....	.....	.....	.....	.....	.....	.....	52	.....	200.41	.....	.....	.....	.....	.....
Missouri, Kansas & Texas	.....	177	20	503	9,941	.....	2,068	27,033	7.2	58,127.87	5	569	7.1	2,651.52	8.7
Missouri Pacific	24	352	6,263	1,485	69,023	13,676	4,776	171,011	45.8	471,322.44	40.5	1,359	16.9	4,508.59	14.7
Quincy, Omaha & Kansas City	.....	.....	.....	.....	.....	.....	94	94	.....	181.82	.....	.....	.....	.....	.....
St. Louis & San Francisco	27	241	181	1,350	29,142	.....	1,489	96,807	25.9	319,735.50	27.5	1,742	21.7	8,247.41	26.9
Wabash	108	272	581	369	773	.....	1,189	10,091	2.7	38,868.50	3.3	81	1	375.08	1.2
Total	607	1,740	10,474	5,463	118,146	13,841	21,503	373,563	100	1,164,461.01	100	8,039	100	30,661.27	100

Lines.	Dressed or fresh meats.				Packing-house products.				Grand total.			
	Tons.	Per cent.	Revenue.	Per cent.	Tons.	Per cent.	Revenue.	Per cent.	Tons.	Per cent.	Revenue.	Per cent.
Atchison, Topeka & Santa Fe	2,613	70	$9,666.40	70	2,410	17.4	$8,915.80	17.4	26,580	6.7	$131,889.66	10.5
Chicago & Alton	256	6.8	949.42	6.9	141	1	516.99	1	4,937	1.2	19,591.81	1.5
Chicago, Burlington & Quincy	37	1	138.34	1	433	3.1	1,602.44	3.1	16,586	4.2	53,130.73	4.2
Chicago Great Western	.....	.....	.....	.....	41	.3	149.20	.3	5,023	1.3	17,408.59	1.4
Chicago, Milwaukee & St. Paul	126	3.4	464.59	3.4	409	3	1,510.34	3	12,019	3	28,876.33	2.3
Chicago, Rock Island & Pacific	477	12.8	1,760.24	12.7	2,709	19.6	10,025.21	19.6	17,275	4.3	75,713.99	6
Kansas City Southern	.....	.....	.....	.....	568	4.1	2,100.97	4.1	620	.2	2,301.38	.2
Missouri, Kansas & Texas	.....	.....	.....	.....	74	.5	273.02	.6	27,676	6.9	61,052.41	4.8
Missouri Pacific	.....	.....	.....	.....	3,375	24.4	12,488.12	24.4	175,745	44	488,319.15	38.8
Quincy, Omaha & Kansas City	.....	.....	.....	.....	.....	.....	.....	.....	94	.....	181.82	.....
St. Louis & San Francisco	224	6	831.20	6	3,312	24.1	12,254.60	24	102,085	25.6	341,078.71	27.1
Wabash	.....	.....	.....	.....	346	2.5	1,273.03	2.5	10,518	2.6	40,516.61	3.2
Total	3,733	100	13,810.19	100	13,818	100	51,109.72	100	399,158	100	1,260,042.19	100

This exhibit is reproduction of exhibit in Burnham-Hanna-Munger case before United States Supreme Court, Interstate Commerce Commission *v.* C., R. I. & P. Ry., 218 U. S., 88.

EXHIBIT 29.—*Westbound tonnage and revenue on traffic to and through southwestern Missouri River points during the year 1906.*

[This exhibit is reproduction of exhibit in Burnham-Hanna-Munger case before U. S. Supreme Court, Interstate Commerce Commission *v.* C. R. I. & P. Ry., 218 U. S., 88.]

Lines.	First class.	Second class.	Third class.	Fourth class.	Fifth class.	Class A.	Class B.	Class C.	Class D.	Class E.	Agricultural implements.	Alcohol, spirits, whisky.	Apples.	Asphalt and pitch.
Atchison, Topeka & Santa Fe	7,513	4,253	4,021	7,155	9,303	2,100	505	1,329	622	1,678	9,059	2,333	.....	1,740
Chicago & Alton	10,036	3,770	5,026	6,812	7,506	1,139	610	1,375	862	538	6,286	1,601	35	30
Chicago, Burlington & Quincy	14,182	6,871	13,341	15,047	16,772	2,844	2,533	5,687	4,062	2,355	17,839	991	25	574
Chicago Great Western	6,110	4,191	4,840	8,229	6,812	1,267	1,267	2,991	1,330	727	4,394	234	23	1,104
Chicago, Milwaukee & St. Paul	11,322	3,699	8,381	11,763	13,016	3,397	1,389	5,623	2,468	279	15,100	288	14	654
Chicago, Rock Island & Pacific	8,696	3,291	8,436	9,732	21,468	5,246	876	2,553	972	923	11,757	1,878	30	905
Kansas City Southern	753	66	794	180	81	10	.....	.....	18	.....	33	149	.....	268
Missouri, Kansas & Texas	313	274	436	993	3,765	253	.....	51	39	20	296	32	.....	46
Missouri Pacific	7,428	5,014	9,366	6,272	9,974	1,129	776	4,485	1,623	1,088	1,722	879	.....	84
Quincy, Omaha & Kansas City	76	70	208	106	1,174	12	.....	.....	.....	.....	139	70	.....	.....
St. Louis & San Francisco	3,015	934	2,149	847	2,640	386	71	467	30	319	172	50	.....	1,369
Wabash	10,551	3,719	8,225	6,738	9,505	3,380	767	1,386	1,174	922	3,771	283	41	399
Total	79,958	36,132	65,113	73,674	101,816	21,453	8,864	25,947	13,180	8,849	70,868	8,788	168	7,173

Lines.	Bags and bagging.	Beer.	Brick and fire clay.	Box lumber, hoops, staves.	Canned goods.	Cement.	Coal.		Coffee.	Coke.	Flaxseed.	Furniture.	Glucose, molasses, and sirup.	Grapes.
							Hard.	Soft.						
Atchison, Topeka & Santa Fe	178	2,176	468	507	1,394	102	1,620	323	480	882	.....	4,128	805	321
Chicago & Alton	1,651	8,648	1,320	632	2,159	1,463	2,164	3,853	370	5,581	.....	1,076	1,782	54
Chicago, Burlington & Quincy	1,484	8,106	3,874	5,759	3,985	14,029	3,231	4,236	856	3,507	879	4,135	2,553	90
Chicago Great Western	323	1,995	201	466	1,210	164	2,996	767	51	1,271	319	1,288	1,355	34
Chicago, Milwaukee & St. Paul	367	17,410	127	1,021	4,179	392	2,261	1,179	868	4,053	1,170	2,652	642	11
Chicago, Rock Island & Pacific	673	6,016	798	2,288	3,557	1,024	3,853	998	3,281	1,609	33	5,760	3,112	118
Kansas City Southern	.....	.....	.....	.....	70	.....	.....	.....	468	.....	.....	20	151	.....
Missouri, Kansas & Texas	83	229	.....	146	198	176	.....	309	185	.....	.....	411	557	.....
Missouri Pacific	456	10,170	10,490	3,140	1,738	806	135	1,854	439	1,633	.....	2,260	1,536	76
Quincy, Omaha & Kansas City	.....	765	31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Louis & San Francisco	2,777	52	.....	1,099	758	508	30	240	892	1,190	.....	395	51	.....
Wabash	2,642	2,542	342	120	1,058	1,303	1,598	8,303	773	2,633	.....	43	1,682	36
Total	10,634	58,079	17,651	15,418	20,306	19,947	17,888	22,062	8,643	22,459	2,401	23,288	14,226	756

EXHIBIT 29.—*Westbound tonnage and revenue on traffic to and through southwestern Missouri River points during the year 1906*—Continued.

Lines.	Iron and steel.	Lemons, oranges, and bananas.	Lime, plaster, and stucco.	Oil.		Paper—building, print, wrapping.	Pig iron.	Pipe.		Rails and railroad iron.	Railroad material and supplies.	Railroad equipment.	Salt.	Sash, doors, and blinds.
				Cotton-seed.	Petroleum.			Cast.	Wrought.					
Atchison, Topeka & Santa Fe	4,993	202	121	24	4,687	2,947	392	379	3,123	1,368	1,546	.....	277	200
Chicago & Alton	2,165	13	212	64	3,632	2,257	282	6,012	2,638	987	1,254	436	591	26
Chicago, Burlington & Quincy	385	828	2,090	488	1,110	5,979	1,990	1,057	10,450	282	383	70	3,223	860
Chicago Great Western	3,091	125	30	24	416	2,525	25	651	472	304	194	.....	3,952	475
Chicago, Milwaukee & St. Paul	4,457	91	59	1,359	3,501	14,370	4,079	40	2,983	3,436	1,608	.....	8,367	1,392
Chicago, Rock Island & Pacific	5,620	335	34	355	4,025	2,483	1,985	280	7,076	883	138	1,192	824	1,241
Kansas City Southern	.....	.....	.....	110	.....	.....	.....	126	.....	.....	.....	.....	.....	.....
Missouri, Kansas & Texas	607	68	.....	86	306	867	912	488	406	.....	17	.....	.....	12
Missouri Pacific	1,467	522	72	1,530	1,348	1,751	2,383	2,332	2,770	561	1	1,075	127	225
Quincy, Omaha & Kansas City	17	.....	.....	.....	133	63	.....	.....	.....	.....	.....	.....	.....	.....
St. Louis & San Francisco	79	8,598	30	126	14	223	1,716	4,578	1,245	22	31	.....	.....	94
Wabash	2,003	64	243	.....	842	3,238	909	721	2,520	192	85	30	72	54
Total	28,345	10,846	2,891	4,166	20,014	36,703	14,673	16,664	33,683	8,035	5,257	2,803	17,433	4,579

Lines.	Soap.	Soda ash, caustic nitrate, etc.	Sugar.	Tin plate.	Vehicles.	Wire and nails.	Wood pulp.	Miscellaneous.	Total.			
									Tons.	Per cent.	Revenue.	Per cent.
Atchison, Topeka & Santa Fe	15	1,318	668	278	2,634	3,326	69	5,642	99,210	8.4	$485,260.03	9.1
Chicago & Alton	17	966	1,099	919	1,715	5,008	1,140	3,396	111,548	9.5	513,781.21	9.6
Chicago, Burlington & Quincy	62	2,141	10,809	3,501	4,764	3,284	.....	9,067	226,111	19.1	1,004,770.73	18.8
Chicago Great Western	25	1,859	1,574	561	953	4,546	641	10,200	88,542	7.5	410,535.01	7.7
Chicago, Milwaukee & St. Paul	85	1,873	1,014	239	5,139	4,813	6,677	14,527	193,784	16.4	820,124.00	15.3
Chicago, Rock Island & Pacific	208	2,443	6,965	1,584	6,207	3,717	7,811	9,956	174,985	14.8	762,504.90	14.3
Kansas City Southern	.....	.....	5,193	.....	.....	55	.....	706	9,251	.8	47,826.44	.9
Missouri, Kansas & Texas	.....	786	410	36	646	243	.....	1,014	15,496	1.3	63,445.62	1.2
Missouri Pacific	.....	1,258	3,589	1,798	2,081	1,346	220	3,848	115,087	9.7	510,213.27	9.5
Quincy, Omaha & Kansas City	.....	.....	.....	.....	96	523	.....	495	3,918	.3	16,808.78	.3
St. Louis & San Francisco	.....	101	5,550	166	438	862	.....	2,710	47,124	4	223,715.35	4.2
Wabash	15	1,253	1,088	39	1,427	1,795	.....	5,213	97,232	8.2	485,446.36	9.1
Total	427	13,998	37,959	9,121	26,100	29,518	16,558	66,774	1,182,288	100	5,344,431.70	100

TO JUNCTION POINTS IN KANSAS AND NEBRASKA ON OR SOUTH OF THE BEATRICE LINE.

Lines.	First class.	Second class.	Third class.	Fourth class.	Fifth class.	Class A.	Class B.	Class C.	Class D.	Class E.	Agricultural implements.	Alcohol, spirits, whisky.	Apples.	Asphalt and pitch.
Atchison, Topeka & Santa Fe...	10,744	4,296	5,371	7,163	6,496	4,600	797	1,495	1,282	471	3,159	.....	40	78
Chicago & Alton.....	2,024	494	859	890	1,103	415	465	146	409	44	1,493	.....	14	.....
Chicago, Burlington & Quincy..	2,448	703	1,659	1,954	1,229	735	1,109	760	568	330	1,081	.....	12	.....
Chicago Great Western.....	439	215	183	728	326	166	116	470	19	54	735	.....	.....	154
Chicago, Milwaukee & St. Paul..	1,318	559	629	1,819	1,264	999	288	3,538	152	189	3,573	.....	.....	21
Chicago, Rock Island & Pacific..	3,997	2,161	3,380	3,813	3,932	1,165	477	1,383	174	542	3,928	18	.....	.....
Kansas City Southern.....	6	.....	2	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Missouri, Kansas & Texas.....	1,696	907	1,263	1,638	1,903	687	324	175	221	589	208	.....	.....	80
Missouri Pacific.....	5,056	3,611	5,478	5,481	11,453	2,904	581	570	474	1,054	592	22	.....	55
Quincy, Omaha & Kansas City..	38	5	132	243	241	.....	.....	.....	.....	.....	12	.....	.....	.....
St. Louis & San Francisco.....	2,906	1,526	2,212	2,157	1,575	494	356	250	1,171	255	244	85	.....	87
Wabash.....	1,406	642	973	1,388	1,248	814	332	751	367	77	585	.....	13	.....
Total.....	32,078	15,119	22,141	27,277	30,770	12,979	4,845	9,538	4,837	3,605	15,610	125	79	475

Lines.	Bags and bagging.	Beer.	Brick and fire clay.	Box lumber, hoops, staves.	Canned goods.	Cement.	Coal.		Coffee.	Coke.	Flaxseed.	Furniture.	Glucose, molasses, and sirup.	Grapes.
							Hard.	Soft.						
Atchison, Topeka & Santa Fe...	127	1,033	1,787	87	2,316	139	1,362	1,407	667	908	.....	768	349	200
Chicago & Alton.....	86	.....	44	92	512	47	1,515	33,158	89	124	.....	115	327	37
Chicago, Burlington & Quincy..	136	611	326	218	692	1,793	1,258	3,438	19	136	.....	258	179	23
Chicago Great Western.....	.....	330	.....	45	299	.....	1,359	75	.....	.....	110	6	72	.....
Chicago, Milwaukee & St. Paul..	204	12,696	32	209	1,093	.....	817	185	.....	262	.....	105	226	11
Chicago, Rock Island & Pacific..	86	1,944	158	155	903	369	2,376	1,395	294	223	49	872	1,691	256
Kansas City Southern.....	.....	.....	.....	.....	.....	.....	.....	.....	65	.....	.....	.....	.....	.....
Missouri, Kansas & Texas.....	140	193	7,535	187	196	701	147	236	12	510	.....	199	201	38
Missouri Pacific.....	472	5,280	25,842	1,744	965	244	68	3,196	104	831	.....	230	874	61
Quincy, Omaha & Kansas City..	.....	181	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Louis & San Francisco.....	189	1,197	8,538	1,341	583	302	66	387	26	1,680	.....	370	104	38
Wabash.....	140	1,526	185	116	634	43	202	229	25	405	.....	134	206	21
Total.....	1,580	24,991	44,447	4,194	8,193	3,638	9,170	43,706	1,301	5,079	159	3,117	4,229	685

EXHIBIT 29.—*Westbound tonnage and revenue on traffic to and through southwestern Missouri River points during the year 1906*—Continued.

TO JUNCTION POINTS IN KANSAS AND NEBRASKA ON OR SOUTH OF THE BEATRICE LINE—Continued.

Lines.	Iron and steel.	Lemons, oranges, and bananas.	Lime, plaster, and stucco.	Oil.		Paper—building, print, wrapping.	Pig iron.	Pipe.		Rails and railroad iron.	Railroad material and supplies.	Railroad equipment.	Salt.	Sash, doors, and blinds.
				Cotton seed.	Petroleum.			Cast.	Wrought.					
Atchison, Topeka & Santa Fe	2,080	74	.....	14	1,227	3,001	71	46	16,684	3,383	2	.....	479	93
Chicago & Alton	241	.....	.....	.....	438	151	131	104	246	177	46,272	1,880	.....	17
Chicago, Burlington & Quincy	204	11	138	.....	155	320	33	108	651	21	346	55	124	193
Chicago Great Western	5	.....	.....	.....	528	352	.....	15	15	51	74	.....	59	.....
Chicago, Milwaukee & St. Paul	514	.....	.....	.....	269	2,305	.....	15	624	137	116	.....	411	287
Chicago, Rock Island & Pacific	862	36	.....	49	1,306	1,388	44	24	1,862	1,299	194	483	569	128
Kansas City Southern	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Missouri, Kansas & Texas	299	.....	15	.....	154	265	163	482	2,248	.....	.....	.....	41	83
Missouri Pacific	1,542	63	40	355	526	1,056	218	895	6,696	897	88	50	100	89
Quincy, Omaha & Kansas City	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Louis & San Francisco	207	5,694	16	170	513	296	683	1,068	2,034	340	.....	.....	19	210
Wabash	218	.....	97	.....	58	427	35	340	1,694	82	59	.....	13	.....
Total	6,102	5,878	306	588	5,174	9,561	1,378	3,097	32,754	6,387	47,151	2,468	1,815	1,091

Lines.	Soap.	Soda ash, caustic nitrate, etc.	Sugar.	Tin plate.	Vehicles.	Wire and nails.	Wood pulp.	Miscellaneous.	Total.			
									Tons.	Per cent.	Revenue.	Per cent.
Atchison, Topeka & Santa Fe	46	625	4,443	195	615	3,726	.....	4,497	98,443	18.9	$478,678.37	23.4
Chicago & Alton	.....	11	188	17	354	1,948	.....	346	97,023	18.6	215,559.57	10.6
Chicago, Burlington & Quincy	.....	100	322	21	376	351	.....	521	25,725	4.9	116,681.68	5.7
Chicago Great Western	.....	.....	.....	.....	21	350	.....	353	7,774	1.5	33,227.04	1.6
Chicago, Milwaukee & St. Paul	.....	53	362	.....	910	776	.....	5,395	42,303	8.1	159,793.95	7.8
Chicago, Rock Island & Pacific	.....	64	2,916	92	1,175	1,288	16	2,678	52,214	10.0	248,860.78	12.2
Kansas City Southern	.....	.....	553	.....	.....	.....	.....	15	644	.1	2,875.91	.1
Missouri, Kansas & Texas	.....	620	876	.....	217	469	.....	822	26,740	5.1	102,870.41	5.0
Missouri Pacific	88	1,619	2,288	27	610	1,298	.....	2,460	98,238	18.8	378,702.37	18.6
Quincy, Omaha & Kansas City	.....	.....	.....	.....	33	.....	.....	235	1,120	.2	5,542.28	.3
St. Louis & San Francisco	15	730	3,629	15	434	407	.....	8,464	53,083	10.2	213,906.10	10.5
Wabash	.....	374	787	.....	257	654	.....	1,226	18,783	3.6	85,137.38	4.2
Total	149	4,196	16,364	367	5,002	11,267	16	27,012	522,050	100.0	2,041,844.84	100.0

EXHIBIT 30.—*Comparative statement of tonnage and revenue on traffic to, from, and through southwest Missouri River points and to and from junction points in Kansas and Nebraska on or south of the Beatrice Line "Consolidated" during the years 1905 and 1906.*

[This exhibit is reproduction of exhibit in Burnham-Hanna-Munger case before United States Supreme Court. Interstate Commerce Commission *v.* C., R. I. & P. Ry., 218 U. S., 88.]

Lines.	Eastbound.								Westbound.			
	Year 1905.				Year 1906.				Year 1905.			
	Tons.	Per cent.	Revenue.	Per cent.	Tons.	Per cent.	Revenue.	Per cent.	Tons.	Per cent.	Revenue.	Per cent.
Atchison, Topeka & Santa Fe	307,572	9.5	$662,819.31	8.3	214,755	6.5	$570,336.76	6.6	208,483	12.6	$988,119.02	13.9
Chicago & Alton	336,703	10.5	875,725.78	10.9	311,621	9.5	812,159.00	9.4	192,154	11.6	676,097.95	9.5
Chicago, Burlington & Quincy	686,995	21.4	1,968,843.25	24.4	630,924	19.1	1,875,960.72	21.7	286,970	17.3	1,343,403.59	18.8
Chicago Great Western	277,126	8.6	816,564.35	10.1	344,602	10.5	991,726.20	11.5	95,388	5.8	424,090.20	6
Chicago, Milwaukee & St. Paul	336,820	10.5	730,544.80	9.1	358,056	10.9	844,115.31	9.8	193,499	11.7	781,326.87	11
Chicago, Rock Island & Pacific	323,267	10.1	645,470.65	8	225,451	6.8	519,141.68	6	243,616	14.7	1,048,443.82	14.7
Kansas City Southern	38,240	1.2	64,169.59	.8	83,794	2.5	128,765.42	1.5	6,974	.4	29,161.02	.4
Missouri, Kansas & Texas	52,176	1.6	98,220.08	1.2	76,470	2.3	140,478.13	1.6	44,021	2.6	177,421.02	2.5
Missouri Pacific	369,273	11.5	848,173.11	10.5	502,301	15.2	1,187,226.04	13.7	193,915	11.7	815,402.32	11.4
Quincy, Omaha & Kansas City	6,789	.2	15,677.80	.2	3,737	.1	8,644.38	.1	7,326	.4	31,608.40	.4
St. Louis & San Francisco	272,902	8.5	783,006.57	9.7	259,308	7.9	769,104.45	8.9	99,898	6	445,293.58	6.2
Wabash	206,715	6.4	547,275.98	6.8	286,244	8.7	798,358.90	9.2	85,362	5.2	371,663.81	5.2
Total	3,215,578	100	8,056,451.27	100	3,297,243	100	8,645,756.79	100	1,657,586	100	7,131,431.60	100

EXHIBIT 30.—*Comparative statement of tonnage and revenue on traffic to, from, and through southwest Missouri River points and to and from junction points in Kansas and Nebraska on or south of the Beatrice Line "Consolidated" during the years 1905 and 1906*—Continued.

Lines.	Westbound.				Summary, east and west bound.							
	Year 1906.				Year 1905.				Year 1906.			
	Tons.	Per cent.	Revenue.	Per cent.	Tons.	Per cent.	Revenue.	Per cent.	Tons.	Per cent.	Revenue.	Per cent.
Atchison, Topeka & Santa Fe	197,653	11.6	$963,938.40	13.1	516,055	10.6	$1,650,938.33	10.9	412,408	8.2	$1,534,274.96	9.6
Chicago & Alton	208,571	12.2	729,340.78	9.9	528,857	10.9	1,551,823.73	10.2	520,192	10.4	1,541,499.78	9.6
Chicago, Burlington & Quincy	251,836	14.8	1,121,452.41	15.2	973,945	20	3,312,246.84	21.8	882,760	17.7	2,997,413.13	18.7
Chicago Great Western	96,316	5.6	443,762.05	5.9	372,514	7.6	1,240,654.55	8.2	440,918	8.8	1,435,488.25	9
Chicago, Milwaukee & St. Paul	236,087	13.9	979,917.95	13.3	530,319	10.9	1,511,871.67	9.9	594,143	11.9	1,824,033.26	11.4
Chicago, Rock Island & Pacific	227,199	13.3	1,011,374.68	13.7	566,883	11.6	1,693,894.47	11.2	452,650	9	1,530,516.36	9.5
Kansas City Southern	9,895	.6	50,702.35	.7	46,214	.9	93,330.61	.6	93,689	1.9	179,267.77	1.1
Missouri, Kansas & Texas	42,236	2.5	166,316.03	2.3	96,197	2	275,641.10	1.8	118,686	2.4	306,734.16	1.9
Missouri Pacific	213,325	12.5	888,915.64	12	563,188	11.6	1,663,555.43	11	715,626	14.3	2,076,141.68	13
Quincy, Omaha & Kansas City	5,038	.3	22,351.06	.3	14,115	.3	46,686.20	.3	8,775	.2	30,995.44	.2
St. Louis & San Francisco	100,207	5.9	437,621.45	5.9	372,800	7.6	1,228,300.15	8.1	359,515	7.2	1,206,725.90	7.5
Wabash	116,015	6.8	570,583.74	7.7	292,077	6	918,939.79	6	402,259	8	1,368,942.64	8.5
Total	1,704,378	100	7,386,270.54	100	4,873,164	100	15,187,882.87	100	5,001,621	100	16,032,033.33	100

EXHIBIT 31.—*Comparative (east and west bound consolidated) for years 1901, 1902, 1903, 1904, 1905, and 1906.*

[This exhibit is reproduction of exhibit in Burnham-Hanna-Munger case before United States Supreme Court, Interstate Commerce Commission *v.* C., R. I. & P. Ry., 218 U. S, 88.]

Lines.	Year 1901.				Year 1902.				Year 1903.			
	Tons.	Per cent.	Revenue.	Per cent.	Tons.	Per cent.	Revenue.	Per cent.	Tons.	Per cent.	Revenue.	Per cent.
Atchison, Topeka & Santa Fe	450,206	10.4	$1,529,667.98	11.1	370,007	10.0	$1,279,240.03	10.5	464,273	10.5	$1,520,607.30	11.3
Chicago & Alton	358,716	8.2	1,027,865.98	7.4	336,626	9.1	1,030,375.85	8.4	488,261	11.1	1,340,875.27	10.0
Chicago, Burlington & Quincy	809,222	18.6	2,677,127.21	19.3	684,794	18.5	2,445,885.97	20.1	802,157	18.2	2,682,770.50	20.0
Chicago Great Western	544,041	12.5	1,627,593.40	11.8	344,690	9.3	1,117,553.16	9.2	429,263	9.8	1,336,711.64	9.9

Chicago, Milwaukee & St. Paul	406,465	9.4	1,270,851.36	9.2	321,276	8.7	1,069,612.92	8.8	420,204	9.6	1,249,586.68	9.3
Chicago, Rock Island & Pacific	382,849	8.8	1,402,997.82	10.1	424,318	11.4	1,371,227.16	11.3	430,546	9.8	1,292,699.25	9.6
Kansas City Southern	98,533	2.3	154,993.73	1.1	54,382	1.5	87,166.25	.7	65,987	1.5	112,549.19	.8
Missouri, Kansas & Texas	105,521	2.4	262,256.74	1.9	119,508	3.2	335,937.00	2.8	104,234	2.4	276,223.98	2.1
Missouri Pacific	420,502	9.7	1,494,874.91	10.8	423,914	11.4	1,448,642.30	11.9	525,666	11.9	1,664,971.50	12.4
Quincy, Omaha & Kansas City	25,890	.6	66,403.53	.5	16,613	.4	40,788.23	.3	18,046	.4	59,750.24	.4
St. Louis & San Francisco	490,432	11.3	1,443,189.99	10.4	398,882	10.8	1,228,558.03	10.1	387,505	8.8	1,117,473.11	8.3
Wabash	251,669	5.8	892,125.75	6.4	212,520	5.7	723,698.47	5.9	262,940	6.0	788,890.52	5.9
Total	4,344,046	100.0	13,849,948.43	100.0	3,707,530	100.0	12,178,685.38	100.0	4,399,382	100.0	13,443,059.18	100.0

Lines.	Year 1904.				Year 1905.				Year 1906.			
	Tons.	Per cent.	Revenue.	Per cent.	Tons.	Per cent.	Revenue.	Per cent.	Tons.	Per cent.	Revenue.	Per cent.
Atchison, Topeka & Santa Fe	476,841	10.6	$1,598,059.16	11.4	516,055	10.6	$1,650,938.33	10.9	412,408	8.2	$1,534,274.96	9.6
Chicago & Alton	503,039	11.2	1,493,147.41	10.6	528,857	10.9	1,551,823.73	10.2	520,192	10.4	1,541,499.78	9.6
Chicago, Burlington & Quincy	847,635	18.9	2,770,358.97	19.7	973,945	20.0	3,312,246.84	21.8	882,760	17.7	2,997,413.13	18.7
Chicago Great Western	457,847	10.2	1,346,573.06	9.6	372,514	7.6	1,240,654.55	8.2	440,918	8.8	1,435,488.25	9.0
Chicago, Milwaukee & St. Paul	446,986	9.9	1,306,568.67	9.3	530,319	10.9	1,511,871.67	9.9	594,143	11.9	1,824,033.26	11.4
Chicago, Rock Island & Pacific	477,821	10.6	1,506,055.28	10.7	566,883	11.6	1,693,894.47	11.2	452,650	9.0	1,530,516.36	9.5
Kansas City Southern	43,099	.9	100,008.13	.7	46,214	.9	93,330.61	.6	93,689	1.9	179,267.77	1.1
Missouri, Kansas & Texas	120,497	2.7	324,021.46	2.3	96,197	2.0	275,641.10	1.8	118,686	2.4	306,734.16	1.9
Missouri Pacific	522,991	11.6	1,668,999.58	11.9	563,188	11.6	1,663,555.43	11.0	715,626	14.3	2,076,141.68	13.0
Quincy, Omaha & Kansas City	16,661	.4	45,616.36	.4	14,115	.3	46,686.20	.3	8,775	.2	30,995.44	.2
St. Louis & San Francisco	348,754	7.8	1,136,120.70	8.1	372,800	7.6	1,228,300.15	8.1	359,515	7.2	1,206,725.90	7.5
Wabash	231,792	5.2	735,562.15	5.3	292,077	6.0	918,939.79	6.0	402,259	8.0	1,368,942.64	8.5
Total	4,493,958	100.0	14,031,090.93	100.0	4,873,164	100.0	15,187,882.87	100.0	5,001,621	100.0	16,032,033.33	100.0

EXHIBIT 32.—*Statement of grain and grain products from Kansas City, Leavenworth, Atchison, and St. Joseph destined to the Mississippi River and east thereof, including Gulf ports, for export during year 1906.*

[This exhibit is a reproduction of exhibit in Burnham-Hanna-Munger case before U. S. Supreme Court, Interstate Commerce Commission *v.* C. R. I. & P. Ry., 218 U. S. 88.]

Lines.	Grain.								Grain products.		
	Weight in tons.						Revenue.	Per cent.	Weight in tons.		
	Barley.	Corn.	Oats.	Rye.	Wheat.	Total.			Flour.	Other grain products.	Total.
Atchison, Topeka & Santa Fe	30	30,955	52	30	48,168	79,235	$110,932.40	8.3	27,281	4,803	32,084
Chicago & Alton	631	6,621	444	974	77,874	86,544	121,160.79	9.1	40,849	8,986	49,835
Chicago, Burlington & Quincy	128	21,175	327	258	69,411	91,299	127,818.52	9.6	70,186	33,014	103,200
Chicago Great Western	22	301	.....	.....	113,879	114,202	159,883.36	11.9	16,447	791	17,238
Chicago, Milwaukee & St. Paul	.....	43,455	.....	.....	127,130	170,585	238,819.63	17.8	20,571	6,391	26,962
Chicago, Rock Island & Pacific	802	5,076	160	.....	59,466	65,495	91,690.72	6.9	60,067	17,408	77,475
Kansas City Southern	.....	21,057	60	.....	45,502	66,619	93,267.30	7	10,868	1,413	12,281
Missouri, Kansas & Texas	2,066	19,229	115	.....	20,766	42,176	59,046.23	4.4	525	496	1,021
Missouri Pacific	544	45,455	3,725	73	90,056	139,853	195,797.50	14.6	24,297	39,623	63,920
Quincy, Omaha & Kansas City	.....	21	.....	28	381	430	602.63	.....	15	.....	15
St. Louis & San Francisco	1,147	43,713	1,442	109	7,178	53,589	75,022.95	5.6	7,454	5,937	13,391
Wabash	59	3,763	20	99	42,105	46,046	64,465.61	4.8	42,899	5,010	47,909
Total	5,429	240,812	6,345	1,571	701,916	956,073	1,338,507.64	100	321,459	123,872	445,331

Lines.	Grain products.		Total grain and grain products.			Year 1905.			Year 1906.		
	Revenue.	Per cent.	Tons.	Revenue.	Per cent.	Tons.	Revenue.	Per cent.	Tons.	Revenue.	Per cent.
Atchison, Topeka & Santa Fe	$44,919.45	7.2	111,319	$155,851.85	8	216,562	$303,182.55	14.3	111,319	$155,851.85	8
Chicago & Alton	69,769.40	11.2	136,379	190,930.19	9.7	143,313	200,683.78	9.5	136,379	190,930.19	9.7
Chicago, Burlington & Quincy	144,481.12	23.2	194,499	272,299.64	13.9	246,447	345,025.45	16.3	194,499	272,299.64	13.9
Chicago Great Western	24,132.49	3.9	131,440	184,015.85	9.4	92,277	129,192.43	6.1	131,440	184,015.85	9.4
Chicago, Milwaukee & St. Paul	37,744.89	6	197,547	276,564.52	14.1	214,859	300,801.14	14.2	197,547	276,564.52	14.1
Chicago, Rock Island & Pacific	108,467.22	17.4	142,970	200,157.94	10.2	240,853	337,192.59	15.9	142,970	200,157.94	10.2
Kansas City Southern	17,195.01	2.7	78,900	110,462.31	5.6	35,437	49,612.65	2.4	78,900	110,462.31	5.6
Missouri, Kansas & Texas	1,427.87	.2	43,197	60,474.10	3.1	16,436	23,011.83	1.1	43,197	60,474.10	3.1
Missouri Pacific	89,487.95	14.4	203,773	285,285.45	14.5	144,421	202,183.99	9.5	203,773	285,285.45	14.5
Quincy, Omaha & Kansas City	20.58	.....	445	623.21	.....	2,932	4,106.57	.2	445	623.21	.....
St. Louis & San Francisco	18,748.21	3	66,980	93,771.16	4.8	78,249	109,555.07	5.2	66,980	93,771.16	4.8
Wabash	67,073.12	10.8	93,955	131,538.73	6.7	80,482	112,683.26	5.3	93,955	131,538.73	6.7
Total	623,467.31	100	1,401,404	1,961,974.95	100	1,512,298	2,117,231.31	100	1,401,404	1,961,974.95	100

EXHIBIT 33.—*Analytical statement of grain and grain products from Kansas City, Leavenworth, Atchison, and St. Joseph destined to the Mississippi River and east thereof, including Gulf ports, for export.*

[This exhibit is reproduction of exhibit in Burnham-Hanna-Munger case before United States Supreme Court, Interstate Commerce Commission *v.* C., R. I. & P. Ry., 218 U. S., 88.]

(Weight in tons.)

Lines.	Seaboard via—				Middle States via—			Export via—		Chicago.	Illinois junction points.	Memphis.
	Chicago.	Illinois junctions.	Milwaukee.	St. Louis and Hannibal.	Chicago.	Illinois junctions.	St. Louis and Hannibal.	Atlantic ports.	Gulf ports.			
Atchison, Topeka & Santa Fe	5,571	460	.....	28	1,090	833	171	8,924	78,042	5,152	6,990	8
Chicago & Alton	3,719	219	.....	439	608	1,164	3,461	32,330	10,883	12,800	12,165	634
Chicago, Burlington & Quincy	7,594	162	72	1,301	3,159	428	3,851	19,120	18,239	22,426	10,225	640
Chicago Great Western	1,812	.....	.....	.....	287	.....	.....	13,071	.....	64,125	184	.....
Chicago, Milwaukee & St. Paul	1,063	642	19,377	.....	6,995	809	169	78,728	.....	11,455	1,234	.....
Chicago, Rock Island & Pacific	17,478	837	30	763	3,862	480	4,163	36,867	16,113	11,502	4,701	1,124
Kansas City Southern	.....	.....	.....	.....	.....	.....	.....	8,227	66,720	.....	.....	.....
Missouri, Kansas & Texas	.....	50	.....	91	.....	.....	231	.....	36,479	.....	15	.....
Missouri Pacific	.....	.....	72	4,903	.....	.....	1,476	1,664	119,128	53	65	14,091
Quincy, Omaha & Kansas City	.....	.....	.....	.....	.....	.....	.....	160	.....	.....	.....	.....
St. Louis & San Francisco	.....	.....	.....	.....	.....	.....	.....	.....	23,939	.....	.....	18,635
Wabash	405	32	.....	4,139	109	17	4,256	13,180	3,042	7,215	17,474	20
Total	37,642	2,402	19,551	11,664	16,110	3,731	17,778	212,271	872,585	34,728	53,053	35,155

Lines.	Milwaukee.	Minneapolis, St. Paul, and Duluth.	Mississippi River points north of St. Louis to Dubuque.	Mississippi Valley territory.	Mobile and New Orleans.	St. Louis and Hannibal.	Southeastern and Carolina territory.	Toledo.	Hastings, Lake City, Winona.	Wisconsin points.	Other points.	Total.	
												Tons.	Per cent.
Atchison, Topeka & Santa Fe.	1,519	402	330	.....	.....	473	59	.....	.....	201	1,066	111,319	8
Chicago & Alton	348	4,729	41,816	8	2,746	222	4,344	135	.....	.....	3,609	136,379	9.7
Chicago, Burlington & Quincy.	8,279	9,336	31,052	681	8,056	21,838	18,668	.....	154	3,601	5,637	194,499	13.9
Chicago Great Western	775	50,156	230	.....	.....	26	88	.....	72	120	194	131,440	9.4
Chicago, Milwaukee & St. Paul.	39,632	20,709	2,581	12	.....	.....	.....	.....	2,768	10,880	493	197,547	14.1
Chicago, Rock Island & Pacific.	714	12,431	11,066	258	6,055	6,130	6,442	.....	.....	85	1,869	142,970	10.2
Kansas City Southern	.....	.....	.....	262	1,519	12	2,160	.....	.....	.....	.....	78,900	5.6
Missouri, Kansas & Texas	.....	.....	2,375	.....	.....	1,816	2,063	.....	.....	.....	77	43,197	3.1
Missouri Pacific	395	881	9,110	3,793	9,421	12,662	25,893	20	.....	6	137	203,773	14.5
Quincy, Omaha & Kansas City	.....	.....	152	.....	.....	133	.....	.....	.....	.....	.....	445	.....
St. Louis & San Francisco	.....	.....	71	1,566	6,122	.....	16,647	.....	.....	.....	.....	66,980	4.8
Wabash	38	3,811	15,726	25	889	15,153	2,301	26	.....	.....	6,097	93,995	6.7
Total	51,700	102,755	111,489	6,605	34,808	58,465	78,665	181	2,994	14,893	19,179	1,401,404	100

EXHIBIT 34.—*Western Trunk Line Committee—Analytical statement showing proportion originating in seaboard territory of tonnage destined to Missouri River points during year 1906—Special statement No. 53.*

[This exhibit is reproduction of exhibit in Burnham-Munger case before U. S. Supreme Court, Interstate Commerce Commission *v.* C., R. I. & P. Ry., 218 U. S., 88.]

Commodities.	Southwestern Missouri River Points.														
	Atchison, Topeka & Santa Fe.	Chicago & Alton.	Chicago, Burlington & Quincy.	Chicago Great Western.	Chicago, Milwaukee & St. Paul.	Chicago, Rock Island & Pacific.	Kansas City Southern.	Missouri, Kansas & Texas.	Missouri Pacific.	Quincy, Omaha & Kansas City.	St. Louis & Santa Fe.	Wabash.	Total from seaboard territory.	Total from all other territory.	Grand total.
First class	1,162	4,498	4,797	2,349	5,444	3,412	719	22	1,402	.....	2,290	3,061	29,156	50,802	79,958
Second class	586	1,027	1,082	868	981	457	62	39	509	.....	644	646	6,901	29,231	36,132
Third class	475	1,096	2,222	1,291	1,512	1,615	496	60	575	.....	975	1,536	11,853	49,290	65,113
Fourth class	562	1,022	1,013	1,701	1,939	802	114	6	405	.....	326	654	8,544	65,130	73,674
Fifth class	517	369	1,205	522	2,618	1,235	67	102	148	.....	227	1,132	8,142	93,674	101,816
Class A	443	285	388	162	710	798	.....	144	81	.....	.....	367	3,378	18,075	21,453
Class B	10	10	.....	45	49	53	.....	16	10	.....	.....	20	213	8,651	8,864
Class C	166	163	147	47	246	323	.....	.....	49	.....	32	445	1,618	24,329	25,947
Class D	82	99	148	205	251	48	.....	.....	40	.....	.....	203	1,076	12,104	13,180
Class E	122	41	18	.....	43	28	.....	.....	18	.....	23	.....	293	8,556	8,849
Agricultural implements	356	364	397	196	191	437	15	49	117	.....	11	261	2,304	68,564	70,868
Alcohol, spirits, whisky, etc.	20	.....	15	.....	20	.....	.....	16	.....	.....	.....	.....	71	8,717	8,788
Apples	.....	.....	.....	23	14	30	.....	.....	.....	.....	.....	15	82	86	168
Asphalt and pitch	635	.....	196	657	423	65	.....	.....	.....	.....	.....	193	2,169	5,004	7,173
Bags and bagging	165	1,432	363	152	291	345	.....	.....	.....	.....	.....	313	3,061	7,573	10,634
Beer	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	58,079	58,079
Brick and fire clay	.....	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21	17,630	17,651
Box lumber, hoops, staves, etc.	.....	.....	230	.....	.....	.....	.....	.....	.....	.....	.....	.....	230	15,188	15,418
Canned goods	124	164	275	.....	913	321	29	135	65	.....	290	235	2,551	17,755	20,306
Cement	.....	.....	.....	.....	52	.....	.....	.....	.....	.....	.....	.....	52	19,895	19,947
Coal, hard	70	.....	178	165	131	272	.....	.....	.....	.....	.....	65	887	17,001	17,888
Coal, soft	.....	.....	.....	44	32	99	.....	.....	.....	.....	.....	.....	178	21,884	22,062
Coffee	322	196	348	.....	741	2,582	80	39	.....	.....	22	250	4,582	4,061	8,643
Coke	.....	.....	122	.....	42	797	.....	.....	43	.....	.....	.....	1,002	21,457	22,459
Cotton piece goods	30	.....	987	.....	988	1,121	233	.....	115	.....	501	.....	13,970	.....	.....
Flax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,401	2,401
Furniture	123	22	102	48	107	176	39	.....	22	.....	89	9	737	22,551	23,288
Glucose, molasses, and sirup	.....	.....	20	.....	40	105	.....	.....	.....	.....	21	.....	187	14,039	14,226
Grapes	195	40	22	.....	11	10	.....	.....	15	.....	.....	12	305	451	756
Iron and steel articles	180	37	125	153	446	662	.....	.....	28	.....	16	108	1,755	26,590	28,345

Lemons, oranges, and bananas	182	.....	207	13	83	162	.....	.....	.....	.....	.....	35	682	10,164	10,846
Lime, plaster, and stucco	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,891	2,891
Oil, cottonseed	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,166	4,166
Oil, petroleum, etc	19	642	74	25	32	237	.....	.....	90	.....	.....	46	1,165	18,849	20,014
Paper (building, print, and wrapping)	393	169	746	230	1,238	221	.....	88	21	.....	49	515	3,670	33,033	36,703
Pig iron	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14,673	14,673
Pipe, cast-iron	14	31	64	.....	.....	.....	.....	.....	29	.....	.....	.....	138	16,526	16,664
Pipe, wrought-iron	28	79	49	16	187	351	.....	115	53	.....	75	52	1,005	32,678	33,683
Rails and railroad iron	210	8	93	.....	.....	.....	.....	.....	.....	.....	.....	.....	311	7,724	8,035
Railroad material and supplies	33	.....	80	.....	113	.....	.....	.....	.....	.....	.....	.....	226	5,031	5,257
Railway equipment	.....	70	70	.....	.....	.....	.....	.....	.....	.....	.....	.....	140	2,663	2,803
Salt	.....	15	133	17	369	30	.....	.....	.....	.....	.....	.....	564	16,869	17,433
Sash, doors, and blinds	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,579	4,579
Soap	.....	.....	15	.....	.....	67	.....	.....	.....	.....	.....	.....	82	345	427
Soda, ash, caustic, nitrate, silicate, and sulphate	552	127	114	454	30	21	.....	50	.....	.....	.....	47	1,395	12,603	13,998
Sugar	417	717	585	1,053	999	3,783	55	255	177	.....	36	340	9,077	28,942	37,959
Tin plate	46	.....	55	47	84	37	.....	.....	26	.....	.....	.....	295	8,826	9,121
Vehicles	84	.....	43	10	149	97	.....	.....	34	.....	.....	40	457	25,643	26,100
Wire and nails	151	53	202	446	328	115	84	20	164	.....	741	164	2,468	27,050	29,518
Wood pulp	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	23	16,535	16,558
Miscellaneous	539	810	376	319	1,555	1,285	721	340	347	.....	261	517	7,070	59,704	66,774
Total from seaboard territory	9,036	13,607	17,306	11,168	23,406	22,200	2,714	1,496	4,583	.....	7,229	11,281	124,076	1,058,262	1,182,288
Per cent	7.3	11.0	14.0	9.0	18.9	17.9	2.1	1.2	3.7	.....	5.8	9.1	10.5	89.5	100.0
Total from all other territory	90,174	97,941	208,805	77,374	170,378	152,785	6,537	14,000	110,504	3,918	39,895	85,951	.....	1,058,262	.....
Per cent	8.5	9.3	19.7	7.3	16.1	14.4	.6	1.3	10.5	.4	3.8	8.1	.....	100.0	.....
Grand total	99,210	111,548	226,111	88,542	193,784	174,985	9,251	15,496	115,087	3,918	47,124	97,232	.....	.....	1,182,288
Per cent	8.4	9.5	19.1	7.5	16.4	14.8	0.8	1.3	9.7	0.3	4.0	8.2	.....	.....	100.0

[1] Deducted from third class.

Prepared by Western Trunk Line Commission, Jas. V. Mahoney, chairman.

EXHIBIT 34.—*Western Trunk Line Committee—Analytical statement showing proportion originating in seaboard territory of tonnage destined to Missouri River points during the year 1906—Special statement No. 53*—Continued.

Commodities.	Omaha group points.											Sioux City.					
	Chicago, Burlington & Quincy.	Chicago Great Western.	Chicago, Milwaukee & St. Paul.	Chicago, Rock Island & Pacific.	Chicago & North Western.	Illinois Central.	Missouri Pacific.	Wabash.	Total from seaboard territory.	Total from all other territory.	Grand total.	Chicago, Milwaukee & St. Paul.	Chicago & North Western.	Illinois Central.	Total from seaboard territory.	Total from all other territory.	Grand total.
First class	2,681	1,023	1,485	2,430	1,234	351	36	377	9,617	17,715	27,332	1,290	424	135	1,849	4,775	6,624
Second class	862	399	517	379	436	154	25	118	2,890	12,844	15,734	495	192	100	787	4,096	4,883
Third class	1,371	709	745	749	406	90	38	321	4,429	18,525	23,989	556	232	67	855	6,027	6,888
Fourth class	820	511	241	413	506	114	23	134	2,762	28,524	31,286	328	232	116	676	7,377	8,053
Fifth class	713	835	589	686	405	73	.....	220	3,521	40,001	43,522	163	241	22	426	5,950	6,376
Class A	263	160	138	272	226	102	.....	12	1,173	8,098	9,271	242	223	236	701	1,560	2,261
Class B	25	10	.....	.....	196	.....	.....	.....	231	2,214	2,445	.....	10	.....	10	432	442
Class C	112	65	.....	175	81	35	.....	34	502	5,720	6,222	74	67	60	201	1,346	1,547
Class D	99	11	60	32	65	10	.....	267	544	5,676	6,220	20	17	.....	37	1,478	1,515
Class E	139	.....	.....	.....	18	.....	.....	39	196	15,233	15,429	27	.....	.....	27	1,521	1,548
Agricultural implements	522	361	37	127	69	69	.....	68	1,253	39,697	40,950	53	54	35	142	4,835	4,977
Alcohol, spirits, whisky, etc	.....	.....	.....	.....	.....	.....	.....	.....	.....	727	727	.....	.....	.....	.....	152	152
Apples	40	86	.....	26	28	13	.....	.....	193	599	792	134	63	.....	197	334	531
Asphalt and pitch	69	.....	.....	.....	.....	.....	.....	.....	69	1,223	1,292	.....	166	125	291	459	750
Bags and bagging	861	530	110	1,069	103	.....	.....	52	2,725	3,911	6,636	.....	.....	.....	.....	.....	.....
Beer	.....	.....	.....	.....	.....	.....	.....	.....	.....	19,114	19,114	.....	.....	.....	.....	2,551	2,551
Brick and fire clay	.....	.....	.....	.....	.....	.....	.....	59	59	41,419	41,478	.....	.....	.....	.....	779	779
Box lumber, hoops, staves, etc	.....	.....	.....	.....	41	.....	.....	.....	41	10,560	10,601	.....	.....	.....	.....	1,390	1,390
Canned goods	565	310	239	441	446	55	37	195	2,288	9,284	11,572	256	263	.....	519	2,393	2,912
Cement	.....	.....	.....	.....	.....	.....	.....	.....	.....	27,965	27,965	24	.....	32	56	3,131	3,187
Coal, hard	249	345	161	238	196	.....	.....	25	1,214	58,560	59,774	91	51	.....	142	12,341	12,483
Coal, soft	33	58	.....	.....	33	.....	.....	.....	124	98,957	99,081	.....	130	35	165	17,608	17,773
Coffee	786	398	348	295	186	40	37	57	2,147	1,699	3,846	436	65	.....	501	315	816
Coke	608	40	20	1,623	948	.....	.....	.....	3,239	19,060	22,299	.....	48	.....	48	2,844	2,892
Cotton piece goods	814	110	25	50	32	2	1	.....	[1] 1,035	.....	.....	.....	.....	6	[1] 6	.....	.....
Flax	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Furniture	71	24	10	.....	10	.....	.....	.....	115	11,447	11,562	.....	.....	.....	.....	2,286	2,286
Glucose, molasses, and sirup	53	.....	79	72	.....	.....	.....	.....	204	6,324	6,528	20	.....	.....	20	2,678	2,698
Grapes	.....	.....	.....	38	12	.....	.....	.....	50	258	308	12	12	.....	24	360	384
Iron and steel articles	81	186	42	48	.....	.....	.....	.....	357	9,502	9,859	18	27	.....	45	1,780	1,825
Lemons, oranges, and bananas	16	.....	.....	.....	.....	.....	.....	.....	16	4,674	4,690	13	15	.....	28	2,193	2,221
Lime, plaster, and stucco	.....	.....	.....	.....	.....	.....	.....	.....	.....	1,080	1,080	.....	.....	.....	.....	211	211

Oil, cottonseed	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,181	2,181	.....	.....	.....	.....	73	73
Oil, petroleum, etc	142	.....	30	12	57	.....	.....	.....	241	10,974	11,215	60	39	25	124	1,266	1,390
Paper (building, print, and wrapping)	150	197	400	263	106	38	52	110	1,316	18,478	19,794	480	79	45	604	3,295	3,899
Pig iron	.....	.....	.....	.....	10	.....	.....	.....	10	2,309	2,319	.....	.....	.....	.....	50	50
Pipe, cast-iron	167	.....	.....	.....	.....	.....	.....	.....	167	3,407	3,574	.....	.....	233	233	496	729
Pipe, wrought-iron	.....	.....	32	172	.....	.....	.....	29	233	9,468	9,701	.....	21	.....	21	1,126	1,147
Rails and railroad iron	27	.....	24	.....	370	.....	.....	.....	421	74,282	74,703	.....	27	.....	27	198	225
Railroad material and supplies	1	.....	459	.....	674	149	.....	.....	1,283	52,465	53,748	.....	.....	.....	.....	.....	.....
Railway equipment	.....	.....	192	57	5,867	.....	.....	.....	7,116	4,587	11,703	.....	.....	.....	.....	.....	.....
Salt	79	.....	99	22	.....	.....	.....	.....	200	11,798	11,998	49	.....	.....	49	8,191	8,240
Sash, doors, and blinds	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,555	4,555	.....	.....	.....	.....	1,415	1,415
Soap	15	.....	.....	.....	.....	.....	.....	.....	15	234	249	.....	.....	.....	.....	15	15
Soda, ash, caustic, nitrate, silicate, and sulphate	303	84	.....	146	106	.....	105	25	769	4,016	4,785	61	15	11	87	606	693
Sugar	785	33	278	1,195	343	.....	.....	24	2,658	8,125	10,783	1,066	1,254	.....	2,320	5,742	8,062
Tin plate	78	16	.....	.....	.....	17	.....	15	126	4,344	4,470	15	.....	.....	15	158	173
Vehicles	.....	29	58	12	10	.....	.....	1	110	17,069	17,179	.....	.....	.....	.....	847	847
Wire and nails	99	219	111	189	113	61	.....	19	811	13,966	14,777	107	193	79	379	4,288	4,667
Wood pulp	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Miscellaneous	294	130	138	679	283	79	23	510	2,136	36,724	38,860	145	131	5	281	2,835	3,116
Total from seaboard territory	13,993	6,879	7,667	11,910	13,616	1,452	377	2,712	58,606	799,592	858,198	6,235	4,291	1,367	11,983	123,803	135,696
Per cent	23.9	11.7	13.1	20.3	23.2	2.5	0.7	4.6	6.8	93.2	100.0	52.4	36.1	11.5	8.8	91.2	100.0
Total from all other territory	203,121	61,576	113,593	83,637	137,627	83,755	33,906	82,378	.....	799,592	.....	48,847	41,275	33,681	.....	123,803	.....
Per cent	25.4	7.7	14.2	10.5	17.2	10.5	4.2	10.3	.....	100.0	.....	39.5	33.3	27.2	.....	100.0	.....
Grand total	217,114	68,455	121,260	95,547	151,243	85,207	34,283	85,089	.....	.....	858,198	55,082	45,566	35,048	.....	.....	135,696
Per cent	25.3	8.0	14.2	11.1	17.6	9.9	4.0	9.9	.....	.....	100.0	40.6	33.6	25.8	.....	.....	100.0

[1] Deducted from third class.

EXHIBIT 35.—*Recapitulated earnings on selected eastbound rail and export tonnage from and via Kansas City only, originating in Kansas City, southern Nebraska, and State of Kansas.*

Commodities.	Freight charges.[1]
Wheat	$3,909,140.61
Corn	97,471.92
Oats, rye, and barley	62,523.23
Flour	722,418.40
Meal, bran, and chops	182,892.88
Seeds and castor beans	8,230.00
Hay and broom corn	215,030.20
Junk and scrap iron	53,274.00
Lead, spelter, bullion, and acid	40,654.90
Potatoes and apples	30,244.50
Fuel oil, naphtha, etc	419,277.98
Total revenue	5,741,158.70
1906 eastbound revenue classified traffic from and via Kansas City, St. Joseph, Atchison, and Leavenworth	4,181,362.51
Gain 1914 revenue via Kansas City over 1906 via all lower river cities	1,559,796.19
Percentage of gain	37.3

[1] Based on rail rates shown below.

Destinations.	Rate used from Kansas City.	Remarks.
Chicago and Milwaukee	Chicago	Same rates.
Minneapolis, St. Paul, and Lake Superior ports	Minneapolis	Minneapolis rate, 12 cents. Lake Superior ports take 17 cents on wheat; other commodities proportionately higher.
Mississippi River, Illinois, and Wisconsin points	St. Louis	St. Louis rate 9 cents. Rates run as high as 15¾ cents on wheat; other commodities proportionately higher.
Mississippi Valley	New Orleans	Basing point rates.
Southeast	Thebes and Cairo	Basing point rates.
Atlantic ports	St. Louis	Basing point rates.
Middle States and seaboard	St. Louis	Basing point rates.
Gulf ports	19½ on wheat; 18½ on corn; 35 on apples; 42 on potatoes.	Rates not shown on statement.

Commodities.	Basing rates on—	
Seeds and castor beans	Seeds	Castor-bean rate is higher by from 3 to 9 cents.
Hay and broom corn	Hay	Broom-corn rate is higher by from 16½ to 33½ cents.
Lead, spelter, bullion, and acid	Lead, spelter, and bullion.	Acid rate higher by from [illegible] to 5 cents, except to Memphis, where no commodity rate is carried on lead, etc.
Potatoes and apples	Divided tonnage evenly and used rate for each.	

EXHIBIT 36.—*Mileage operated, density of freight traffic, economies in freight-train loading, average distance haul, and ton-mile earnings for fiscal years as shown of Mississippi-Missouri River lines, except Illinois Central.*

[NOTE.—Figures for M. K. & T. Ry. for 1913 include data for M. K. & T., M. K. & T. of Texas, Texas Central Ry., W. F. & N. W. Ry., W. F. & S. W., W. F. & W. of Texas, W. F. Ry., D. B. & N. O. Ry., D. C. & S. W. Ry., M. K. & T. Term. Co. of St. Louis, and Booneville R. R. Bridge Co. Authority: Interstate Commerce Commission's "Statistics of Railways in U. S."]

(Statistics in this form available only for period shown.)

AVERAGE MILES OPERATED.

Line.	1908	1909	1910	1911	1912	1913
Atchison, Topeka & Santa Fe	7,114.30	7,460.51	7,472.31	7,549.69	8,200.86	8,237.55
Chicago, Burlington & Quincy	8,977.25	9,023.09	9,023.06	9,074.84	9,074.10	9,128.51
Chicago & Alton	993.88	998.08	998.08	1,025.11	1,025.72	1,032.08
Chicago & North Western	6,172.63	6,177.12	6,169.00	7,718.72	7,858.87	7,974.24
Chicago Great Western	818.36	818.36	1,239.32	1,496.22	1,496.22	1,496.22
Chicago, Milwaukee & St. Paul	7,499.23	7,511.73	7,511.56	7,511.44	7,511.41	9,710.02
Chicago, Rock Island & Pacific	7,384.50	7,407.54	7,400.33	7,551.16	7,566.05	7,572.53
Missouri Pacific	3,491.68	3,491.73	3,882.49	3,916.25	3,918.25	3,919.58
Quincy, Omaha & Kansas City	267.64	267.64	268.21	268.54	268.47	268.47
Wabash	2,514.80	2,514.60	2,514.60	2,514.60	2,514.60	2,514.60
Missouri, Kansas & Texas	1,728.19	1,724.19	1,724.19	1,737.00	1,744.41	3,677.47
St. Louis & San Francisco	4,726.64	4,726.64	4,726.39	4,731.88	4,733.97	4,741.58

TONS OF FREIGHT 1 MILE PER MILE OF ROAD.

Atchison, Topeka & Santa Fe	765,417	678,717	757,977	744,952	715,297	762,668
Chicago, Burlington & Quincy	735,708	733,715	824,016	784,409	845,900	965,083
Chicago & Alton	1,264,672	1,342,532	1,365,832	1,493,435	1,576,270	1,722,975
Chicago & North Western	633,881	636,972	729,094	703,963	654,882	786,902
Chicago Great Western	1,031,595	1,109,938	680,078	822,896	818,889	894,069
Chicago, Milwaukee & St. Paul	664,133	672,485	709,161	708,712	679,745	866,258
Chicago, Rock Island & Pacific	.....	530,131	581,272	601,366	582,893	656,012
Missouri Pacific	499,527	590,400	552,683	490,948	515,270	631,936
Quincy, Omaha & Kansas City	210,240	230,690	262,967	175,844	229,689	238,734
Wabash	1,186,364	1,173,154	1,322,598	1,329,535	1,243,703	1,480,374
Missouri, Kansas & Texas	496,138	526,731	528,021	609,311	637,884	497,766
St. Louis & San Francisco	500,964	513,085	576,083	545,701	550,749	633,906

AVERAGE TONS OF FREIGHT PER TRAIN MILE.

Atchison, Topeka & Santa Fe	311.55	301.57	289.39	318.22	326.44	350.36
Chicago, Burlington & Quincy	384.26	387.44	381.26	406.33	437.75	483.83
Chicago & Alton	407.21	410.08	383.07	395.96	423.63	483.20
Chicago & North Western	261.66	260.13	260.71	276.54	298.94	347.97
Chicago Great Western	285.96	297.47	302.52	369.35	399.64	449.89
Chicago, Milwaukee & St. Paul	273.59	273.73	275.70	274.69	288.16	346.95
Chicago, Rock Island & Pacific	.....	265.65	257.83	269.03	276.87	354.38
Missouri Pacific	241.72	232.10	239.86	236.37	270.91	317.47
Quincy, Omaha & Kansas City	161.71	156.49	179.35	129.80	150.43	160.37
Wabash	361.14	351.97	352.70	344.38	357.75	395.33
Missouri, Kansas & Texas	219.04	233.63	216.21	261.80	289.87	242.97
St. Louis & San Francisco	215.69	226.59	227.32	227.08	262.28	287.90

AVERAGE DISTANCE HAUL, 1 TON, MILES.

Atchison, Topeka & Santa Fe	389.40	361.60	353.11	342.97	323.85	296.61
Chicago, Burlington & Quincy	267.62	264.24	266.80	251.20	254.92	263.30
Chicago & Alton	160.01	158.81	160.15	160.35	159.70	165.51
Chicago & North Western	158.07	148.31	141.40	147.92	138.11	140.12
Chicago Great Western	267.71	256.39	258.65	244.45	242.41	252.08
Chicago, Milwaukee & St. Paul	190.17	183.69	173.52	198.68	192.12	227.31
Chicago, Rock Island & Pacific	.....	234.86	229.58	239.98	237.61	294.98
Missouri Pacific	181.70	177.36	184.61	176.83	189.79	195.09
Quincy, Omaha & Kansas City	101.63	96.21	98.41	89.34	95.29	99.89
Wabash	242.47	234.94	237.51	236.48	231.72	238.26
Missouri, Kansas & Texas	236.57	219.94	216.66	191.39	186.94	206.27
St. Louis & San Francisco	172.72	167.11	167.30	163.98	167.27	166.21

EXHIBIT 36.—*Mileage operated, density of freight traffic, economies in freight train loading, average distance haul, and ton-mile earnings for fiscal years as shown of Mississippi River lines except Illinois Central*—Continued.

AVERAGE RECEIPTS PER TON MILES.

Line.	1908	1909	1910	1911	1912	1913
	Cents.	*Cents.*	*Cents.*	*Cents.*	*Cents.*	*Cents.*
Atchison, Topeka & Santa Fe	.945	1.025	1.036	1.05	1.047	1.030
Chicago, Burlington & Quincy	.796	.789	.783	.816	.752	.729
Chicago & Alton	.610	.570	.598	.606	.576	.561
Chicago & North Western	.867	.897	.891	.902	.907	.870
Chicago Great Western	.645	.617	.716	.718	.725	.732
Chicago, Milwaukee & St. Paul	.812	.838	.843	.841	.839	.788
Chicago, Rock Island & Pacific	.....	.931	.916	.912	.888	.885
Missouri Pacific	.851	.863	.878	.896	.868	.829
Quincy, Omaha & Kansas City	.831	.855	.808	.942	.989	.929
Wabash	.573	.582	.586	.603	.61	.585
Missouri, Kansas & Texas	1.01	1.042	1.054	1.074	.886	1.142
St. Louis & San Francisco	.955	.979	.963	1.029	.992	.982

AVERAGE AMOUNT RECEIVED FOR EACH TON OF FREIGHT.

Atchison, Topeka & Santa Fe	$3.6809	$3.70584	$3.65666	$3.60197	$3.39030	$3.05460
Chicago, Burlington & Quincy	2.12008	2.08499	2.08933	2.04859	1.91755	1.91869
Chicago & Alton	.97660	.90562	.95696	.97159	.91980	.92790
Chicago & North Western	1.37089	1.33012	1.25921	1.33461	1.25234	1.21906
Chicago Great Western	1.72762	1.58352	1.85174	1.75597	1.75681	1.84577
Chicago, Milwaukee & St. Paul	1.54361	1.53972	1.46289	1.67116	1.61107	1.79086
Chicago, Rock Island & Pacific	.....	2.18636	2.10602	2.18966	2.10989	2.12013
Missouri, Kansas & Texas	2.32033	2.29069	2.28315	2.05632	1.86144	2.35653
Missouri Pacific	1.54583	1.53136	1.62042	1.58492	1.64720	1.61692
Quincy, Omaha & Kansas City	.84445	.82249	.79549	.84187	.94281	.90678
St. Louis & San Francisco	1.64888	1.63720	1.61192	1.68797	1.65986	1.63281
Wabash	1.39004	1.36798	1.39068	1.42606	1.41329	1.39365

RELATION BETWEEN EFFECTIVE WATER TRANSPORTATION AND LOW RAIL RATES (EXHIBITS 37–46).

EXHIBIT 37.—*Rates in cents per 100 pounds.*

(Current Oct. 19, 1915.)

From Kansas City, Mo., to—	Wheat.		Corn.	
	Rate.	Tariff I. C. C. No.	Rate.	Tariff I. C. C. No.
Chicago, Ill	12	C. R. I. & P. C–9650	11	C. R. I. & P. C–9650.
Milwaukee, Wis	12	C. R. I. & P. C–9408	11	C. R. I. & P. C–9408.
Minneapolis, Minn	12	C. R. I. & P. C–9650	11	C. R. I. & P. C–9650.
Duluth, Minn	17	do	16	Do.
St. Louis, Mo	9	do	8	Do.
Memphis, Tenn	14	C. R. I. & P. C–9700	13	C. R. I. & P. C–9700.
New Orleans, La	20	do	19	Do.
Thebes, Ill Cairo, Ill	10	C. R. I. & P. C–9455	9	C. R. I. & P. C–9455.
(When for southeast.) Memphis, Tenn (When for beyond.)	14	C. R. I. & P. C–9700	13	C. R. I. & P. C–9700.

EXHIBIT 37.—*Rates in cents per 100 pounds*—Continued.

From Kansas City, Mo., to—	Oats, rye, barley.		Flour.	
	Rate.	Tariff I. C. C. No.	Rate.	Tariff I. C. C. No.
Chicago, Ill	11	C. R. I. & P. C–9650...	12	C. R. I. & P. C–9650.
Milwaukee, Wis	11	C. R. I. & P. C–9408...	12	C. R. I. & P. C–9408.
Minneapolis, Minn	11	C. R. I. & P. C–9650...	14	C. R. I. & P. C–9650.
Duluth, Minn	16	.....do.....	19	Do.
St. Louis, Mo	8	.....do.....	9	Do.
Memphis, Tenn	13	C. R. I. & P. C–9700...	14	C. R. I. & P. C–9700.
New Orleans, La	19	.....do.....	20	Do.
Thebes, Ill Cairo, Ill (When for southeast.)	9	C. R. I. & P. C–9455...	14	C. R. I. & P. C–9455.
Memphis, Tenn (When for beyond.)	13	C. R. I. & P. C–9700...	14	C. R. I. & P. C–9700.

From Kansas City, Mo., to—	Meal, bran, chops.		Castor beans.	
	Rate.	Tariff I. C. C. No.	Rate.	Tariff I. C. C. No.
Chicago, Ill	11	C. R. I. & P. C–9650...	14	C. R. I. & P. C–9650.
Milwaukee, Wis	11	C. R. I. & P. C–9408...	14	C. R. I. & P. C–9408.
Minneapolis, Minn	11	C. R. I. & P. C–9650...	15¾	C. R. I. & P. C–9650.
Duluth, Minn	16	.....do.....	20¾	Do.
St. Louis, Mo	8	.....do.....	9	Do.
Memphis, Tenn	13	C. R. I. & P. C–9700...	19	C. R. I. & P. C–9700.
New Orleans, La	19	.....do.....	28	Do.
Thebes, Ill Cairo, Ill (When for southeast.)	9	C. R. I. & P. C–9455...	16	C. R. I. & P. C–9455.
Memphis, Tenn (When for beyond.)	13	C. R. I. & P. C–9700...	19	C. R. I. & P. C–9700.

From Kansas City, Mo., to—	Sorghum seed.		Broom corn.	
	Rate.	Tariff I. C. C. No.	Rate.	Tariff I. C. C. No.
Chicago, Ill	11	C. R. I. & P. C–9650...	45	W. T. L. A–602.
Milwaukee, Wis	11	C. R. I. & P. C–9408...	45	Do.
Minneapolis, Minn	11	C. R. I. & P. C–9650...	48	Do.
Duluth, Minn	16	.....do.....	53	Do.
St. Louis, Mo	8	.....do.....	35	Do.
Memphis, Tenn	13	C. R. I. & P. C–9700...	31	C. R. I. & P. C–9700.
New Orleans, La	19	.....do.....	.....	
Thebes, Ill Cairo, Ill (When for southeast.)	9	C. R. I. & P. C–9455...	31	C. R. I. & P. C–9455.
Memphis, Tenn (When for beyond.)	13	C. R. I. & P. C–9700...	31	C. R. I. & P. C–9700.

From Kansas City, Mo., to—	Hay.		Junk and scrap iron.	
	Rate.	Tariff I. C. C. No.	Rate.	Tariff I. C. C. No.
Chicago, Ill	19½	C. R. I. & P. C–9775...	22	W. T. L. A–602.
Milwaukee, Wis	19½	.....do.....	22	Do.
Minneapolis, Minn	19½	.....do.....	23	Do.
Duluth, Minn	.....	.....	25	Do.
St. Louis, Mo	14½	C. R. I. & P. C–9775...	17	Do.
Memphis, Tenn	14½	C. R. I. & P. C–9700...	22	Do.
New Orleans, La	23½	.....do.....	.....	
Thebes, Ill Cairo, Ill (When for southeast.)	14½	C. R. I. & P. C–9455...	18	Hall's A–52.
Memphis, Tenn (When for beyond.)	14½	C. R. I. & P. C–9700...	22	Do.

EXHIBIT 37.—*Rates in cents per 100 pounds*—Continued.

From Kansas City, Mo., to—	Lead, spelter, bullion.		Acid.	
	Rate.	Tariff I. C. C. No.	Rate.	Tariff I. C. C. No.
Chicago, Ill	11	W. T. L. A-602	15	W. T. L. A-602.
Milwaukee, Wis	11	do	15	Do.
Minneapolis, Minn	11	do	16	Do.
Duluth, Minn	11	do	.....	
St. Louis, Mo	7½	do	10	Do.
Memphis, Tenn	27	do	15	Do.
New Orleans, La	.....	.....	18	Hall's A-47.
Thebes, Ill Cairo, Ill (When for southeast.)	14	Hall's A-52	11	Hall's A-52.
Memphis, Tenn (When for beyond.)	18	do	15	Do.

From Kansas City, Mo., to—	Potatoes.		Apples.	
	Rate.	Tariff I. C. C. No.	Rate.	Tariff I. C. C. No.
Chicago, Ill	22	W. T. L. A-602	27	W. T. L. A-602.
Milwaukee, Wis	22	do	27	Do.
Minneapolis, Minn	23	do	28	Do.
Duluth, Minn	25	do	31	Do.
St. Louis, Mo	17	do	22	Do.
Memphis, Tenn	22	do	27	Do.
New Orleans, La	34	Hall's A-47	35	Hall's A-47.
Thebes, Ill Cairo, Ill (When for southeast.)	13	Hall's A-52	23	Hall's A-52.
Memphis, Tenn (When for beyond.)	17	do	27	Do.

From Kansas City, Mo., to—	Fuel oil.		Naphtha.	
	Rate.	Tariff I. C. C. No.	Rate.	Tariff I. C. C. No.
Chicago, Ill	22	W. T. L. A-602	22	W. T. L. A-602.
Milwaukee, Wis	22	do	22	Do.
Minneapolis, Minn	28	do	28	Do.
Duluth, Minn	31	do	31	Do.
St. Louis, Mo	22	do	22	Do.
Memphis, Tenn	27	do	27	Do.
New Orleans, La	35	Hall's A-47	35	Hall's A-47.
Thebes, Ill Cairo, Ill (When for southeast.)	21	Hall's A-52	21	Hall's A-52.
Memphis, Tenn (When for beyond.)	25	do	25	Do.

Exhibit 38.

[Authorities: Western Transit (canal, lake, and rail) I. C. C. 272, effective Aug. 19, 1911; New York Central & Hudson River tariff A-25000, I. C. C. B-18971, effective Aug. 1, 1913; Pa. G. O. I. C. C. No. 3870, effective June 1, 1912; Western Trunk Lines 5-F, I. C. C. A-422 and 1-I, I. C. C. A-602.]

Commodity.	New York City to Chicago.					
	Canal and lake.			Lake and rail.		
	Minimum weight 1,000 pounds.	Tariff reference.	Rate.	Minimum weight 1,000 pounds.	Tariff reference.	Rate.
Coffee	30	W. Tr. I. C. C. 272	19	30	Pa. R. R. I. C. C. 3415.	23
Canned goods	36	do	19	36	Pa. R. R. I. C. C. 3870.	25
Earthenware in boxes, barrels, tierces.	24 (R. 27)	do	17	24	do	25
Bar iron	36	do	16	36	do	25
Building paper	30	do	14¼	30	Pa. R. R. I. C. C. 4255.	17¼
Sugar	33	do	19	33	Pa. R. R. I. C. C. 3415.	23
Electrical equipment	30	do	19	30	Pa. G. O. I. C. C. 3870.	41
Paint	36	do	19	36	do	25
Plumbers' goods	30	do	22	30	do	25
Hardware	30	do	22	30	do	30
Drugs	24	do	29	24	do	41

Commodity.	New York City to Chicago (all rail, 912 miles).			Chicago to Kansas City (451 miles).			
	Minimum weight 1,000 pounds.	Tariff reference.	Rate.	Tariff.	Item.	Minimum weight 1,000 pounds.	Rate.
Coffee	30	Pa. R. R. I. C. C. 5969	30	W. T. L. 1-H., I. C. C. A-364.	Class.	30	27
Canned goods	36	Pa. R. R. I. C. C. 3899	30	do	Class.	36	27
Earthenware in boxes, barrels, tierces.	24	do	30	do	Class.	24	27
Bar iron	36	do	30	do	685	36	27
Building paper	30	Pa. R. R. I. C. C. 3698	20	do	840	40	16
Sugar	33	Pa. R. R. I. C. C. 5969	26	do	Class.	36	27
Electrical equipment	30	N. Y. C. & H. R. I. C. C. B-18971	52½	do	Class.	(1)	80
Paint		do	31½	do	Class.	36	27
Plumbers' goods	30	do	31½	do	Class.	24	45
Hardware	30	do	36.8	do	Class.	(1)	65
Drugs	24	do	52½	do	570	30	55

[1] Any quantity.

EXHIBIT 39.—*Rates on class traffic.*

[Authorities: Interstate Commerce Commission's "Railways in the United States in 1902," and tariffs, Western Trunk Lines 1-I., I. C. C. A-602; 5-F., I. C. C. A-422; N. Y. C. H. R. A-2500, I. C. C. B-18971; Pa. R. R. G. O. I. C. C. 3870; Western Transit Co. I. C. C. 272.]

[In cents per 100 pounds.]

Classes.	Chicago to—				New York to Chicago.					
	Minneapolis (420 miles).		Kansas City (451 miles).		All rail (812 miles).		Rail and lake.		Canal and lake.	
	1890	1915	1890	1915	1888	1915	1901	1913	1901	1913
Less than carload:										
1	60	60	60	80	75	78.8	59	62	40	42
2	50	50	50	65	65	68.3	51	54	34	38
3	40	40	35	45	50	52.5	40	41	28	29
4	25	25	25	32	35	36.8	29	30	22	22
Carload:										
5	18	20	18	27	30	31.5	25	25	20	19
A	25	25	25	32	25	26.3	21.5	21	17.5	17
B	18	20	20	27	[1]	[1]	[1]	[1]	[1]	[1]
C	15	17	15	22	.....	.....	.....	.....	.....	.....
D	13	14	14	18.5	.....	.....	.....	.....	.....	.....
E	12	13	13	16	.....	.....	.....	.....	.....	.....

[1] Sixth class.

EXHIBIT 40.

[C., R. I. & P. 28470-C, I. C. C. C-9505; C., R. I. & P. 22000-C, I. C. C. C-9446; C., R. I. & P. 29329-A, I. C. C. C-9650; B. & O. I. C. C. 1157, Pa. Co. I. C. C. F-626; A., T. & S. F. 5588-J, I. C. C. 6240; C., R. I. & P. 28675-B, I. C. C. C-9691; C., B. & Q. 1800-B, I. C. C. 9320; U. P. 13475, I. C. C. 2548.]

[In cents per 100 pounds.]

	Minneapolis to Chicago (420 miles.)		Kansas City to Chicago (451 miles).		Chicago to New York.					
					Wheat.			Corn.		
	Wheat.	Corn.	Wheat.	Corn.	All rail (912 miles).	Lake and rail.	Lake and canal.	All rail (912 miles).	Lake and rail.	Lake and canal.
Proportional on traffic from beyond	10	7.5	12	11	18.8	14.7	8.85	18.8	14.7	9.4

To Chicago from—	Miles.	Wheat.	To Chicago from—	Miles.	Wheat.
Newton, Kans	644	24½	Smith Center, Kans	717	25
Wichita, Kans	671	24½	Grand Island, Nebr	637	25.6
Pratt, Kans	745	25¼	Lexington, Nebr	714	26.87
Kiowa, Kans	766	25½	Ogallala, Nebr	825	27.3
Dodge City, Kans	797	26½	Hastings, Nebr	642	25.6
Great Bend, Kans	725	25¼	Holdredge, Nebr	696	25.6
Scott City, Kans	845	26½	McCook, Nebr	773	27.3
McFarland, Kans	615	20	Benkelman, Nebr	825	27.3
Clay Center, Kans	673	22	Imperial, Nebr	833	27.3
Belleville, Kans	652	24			

EXHIBIT 41.—*Lake and rail freights, season of 1914.*

The following shows the current weekly freights on flour, wheat, and corn by lake, Chicago to Buffalo:

[Authority: 1914 annual report, Chicago Board of Trade.]

Week ending—	Flour.[1]	Wheat.[2]	Corn.[2]	Oats.[2]	Week ending—	Flour.[1]	Wheat.[2]	Corn.[2]	Oats.[2]
	Cents.	*Cents.*	*Cents.*	*Cents.*		*Cents.*	*Cents.*	*Cents.*	*Cents.*
Apr. 25	16.4	1 1/4	1 1/4	1	Aug. 15	16.4	7/8	7/8	7/8
May 2	16.4	1 1/4	1 1/4	1	22	16.4	7/8	7/8	7/8
9	16.4	1	1	7/8	29	16.4	7/8	7/8	7/8
16	16.4	1	1	7/8	Sept. 5	16.4	7/8	7/8	7/8
23	16.4	7/8	7/8	7/8	12	16.4	1	1	7/8
30	16.4	1	1	7/8	19	16.4	1	1	7/8
June 6	16.4	7/8	7/8	7/8	26	16.4	1 1/8	1 1/8	7/8
13	16.4	1	1	7/8	Oct. 3	16.4	1 1/8	1 1/8	7/8
20	16.4	7/8	7/8	7/8	10	16.4	1	1	7/8
27	16.4	7/8	7/8	7/8	17	16.4	1	1	7/8
July 4	16.4	7/8	7/8	7/8	24	16.4	1	1	7/8
11	16.4	7/8	7/8	7/8	31	16.4	1	1	7/8
18	16.4	7/8	7/8	7/8	Nov. 7	16.4	1 1/4	1 1/4	1
25	16.4	7/8	7/8	7/8	14	16.4	1 1/2	1 1/2	1 1/8
Aug. 1	16.4	1	1	7/8	21	16.4	1 3/4	1 3/4	1 3/8
8	16.4	7/8	7/8	7/8	28	16.4	1 3/4	1 3/4	1 3/8

[1] Per barrel. [2] Per bushel.

EXHIBIT 42.—*Movement of flour and grain from Chicago during 1914, via Lakes, eastern and southeastern railroads.*

[Authority: 1914 annual report, Chicago Board of Trade.]

Route.	Flour.	Wheat.	Corn.	Oats.	Rye.	Barley.
	Barrels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Lake	3,097,000	56,456,000	21,891,000	11,119,000	75,000	250,000
Eastern and southeastern lines	4,064,000	27,122,000	40,686,000	109,254,000	2,047,000	6,184,000
Total	7,161,000	83,578,000	62,577,000	120,373,000	2,122,000	6,434,000

EXHIBIT 43.—*Grain received at New York.*

[Authority: Statistical Abstract of United States, p. 295.]

Route.	1912	1913
	Bushels.	*Bushels.*
By canal via river	3,530,600	4,371,700
Otherwise	126,640,580	135,672,495
Total	130,171,180	140,044,195

Received via canal, 3 per cent.

EXHIBIT 44.—*Statement of freight moving through Panama Canal from Atlantic and Gulf ports to ports in California, Oregon, and Washington, from Sept. 27, 1914, to Sept. 5, 1915, inclusive, as shown in the Canal Record.*

[Submitted by rail carriers in recent hearing before Interstate Commerce Commission, fourth section application No. 10172.]

Period.	General cargo.	Coal.	Period.	General cargo.	Coal.
	Tons.	*Tons.*		*Tons.*	*Tons.*
Sept. 27-29, 1914	14,800	8,340	May 2-31, 1915	98,263	12,865
Oct. 1-28, 1914	59,746	10,252	June 5-30, 1915	64,349	13,385
Nov. 1-30, 1914	69,547	3,995	July 1-31, 1915	60,958	8,933
Dec. 2-31, 1914	52,027	1,700	Aug. 4-29, 1915	45,996	9,803
Jan. 1-31, 1915	79,744	8,566	Sept. 1-5, 1915	24,945	.....
Feb. 1-26, 1915	57,328	1,828			
Mar. 1-31, 1915	89,769	12,052	Total	822,517	93,540
Apr. 2-30, 1915	105,045	1,821			

CHICAGO *September 23, 1915.*

EXHIBIT 45.—*Representative reductions in rates from territory New York to Colorado State line to California Pacific coast terminals by rail lines in competition with water lines via Panama Canal, effective July 15, 1915 (Transcontinental Freight Bureau Westbound Tariff No. 1-N, I. C. C. No. 996, Sup. No. 16.) Substantially corresponding reductions were made by the rail lines to north coast terminals.*

[Cents per hundredweight.]

Item No.	Commodity.	Carload rates.			Less than carload rates.		
		Old.	New.	Reduction.	Old.	New.	Reduction.
1081 282	Calcium, carbide of	125	85	40			
1088-B	Canned fish, fruits, meats, vegetables, etc	90-95	75	15-20			
1104-A	Cocoa beans	85	75	10			
1115	Brattice cloth				175	150	25
1118-A 1118 392	Dry goods, cotton	110	90	20	160	135	25
1120 1119	Clayed cotton bagging				145	135	10
1128-A	Electrical goods	90	80	10			
1130-A	....do	85	75	10			
1136 1138 1138-1 1138-2 1139	Hardware				175-190	150	25-40
544 1142	Lawn mowers	125	95	30			
1140 1148-A	Hinges, spring				160	150	10
1148-A	Pulleys				160	150	10
1152	Sandpaper				160	150	10
1154	Screws (iron or steel)				130	125	5
1158 1160 1160-1 1161 1161-1	Tools				175-190	150	25-40
1162-A	Files, rasps				185	150	35
1168-A 1168-1	Hose				175	150	25
1168-A 1168-2 1169	Packing				175	150	25
1170	Ink				150	125	25
1172	Iron and steel articles	80	75	5			
1178	Bar iron	80	75	5	130	125	5
1182	Bolts, nuts	80	75	5	130	125	5
1184-A	Butts, hinges, hasps, etc	85	75	10			
1184 1185	Hooks, staples, links				130	125	5
1186 1186-1 1186-2	Castings, n. o. s	80	75	5	160	125	35
1186 1187	Ingot molds				160	150	10
1188-A	Chain, n. o. s	85	75	10			
1188 1188-1					135	125	10
1212-A	Pipe bands	80	75	5	130	125	5
1214-A 1216-B 1217	Sheet iron	80-85	75	5-10	130	125	5
1218-B 1218-1	Sheet iron, 12G or lighter	95	75	20	130	125	5
1220-A	Shingle bands, box strips, baling ties	80	75	5			
1222-A	Shoes—horse, mule	85	75	10			
1224-A	Shoes, heads, rings, tires or dies, cams and tappets for quartz mills	90	75	15			
1228-A 1228-1	Sucker rods	80	75	5	130	125	5
1234-A	Turnbuckles				175	150	25

EXHIBIT 45.—*Representative reductions in rates from territory New York to Colorado State line to California Pacific coast terminals by rail lines in competition with water lines via Panama Canal, effective July 15, 1915 (Transcontinental Freight Bureau Westbound Tariff No. 1-N, I. C. C. No. 996, Sup. No. 16.) Substantially corresponding reductions were made by the rail lines to north coast terminals*—Continued.

Item No.	Commodity.	Carload rates.			Less than carload rates.		
		Old.	New.	Reduction.	Old.	New.	Reduction.
1242-A. 1242-1..	Liquors, n. o. s.	.....	.....	.....	175	150	25
646..... 1243....	Wine	125	90	35	.....	.....	.....
726..... 1253....	Oilcloth, linoleum, wood grain flooring	110	75	35	.....	.....	.....
1254-A. 1254-1..	Paints	95	75	20	130	125	5
1256.... 1254-A.	White or red lead	85	75	10	.....	.....	.....
1258.... 1257.... 748..... 1258-1.. to 1258-5..	Paper and articles of paper	120	90	30	175	150	25
750..... 1259....	Bag and barrel linings	100	80	20	.....	.....	.....
1262-A.	Paper, book-cover, colored or glazed	90	80	10	.....	.....	.....
1272-A.	Wrapping paper	90	80	10	.....	.....	.....
768..... 1275....	Writing (flat) paper	100	90	10	.....	.....	.....
801..... 1277....	Potassium and sodium, cyanide of	120	85	35	.....	.....	.....
1306....	Soda, bicarbonate	84	75	9	.....	.....	.....
1308.... 1308-1..	Spices	.....	.....	.....	170	150	20
912..... 1313....	Starch	100	85	15	.....	.....	.....
928..... 1313-1..	Radiators (without gas heating attachment)	100	75	25	.....	.....	.....
930..... 1312-2..	Sectional boilers	120	75	45	.....	.....	.....
1314-A.	Stovepipe, iron	95	75	20	.....	.....	.....
1316-A. 1316-1..	Tacks	95	75	20	175	150	25
1326-A.	Twine and cordage	95	75	20	.....	.....	.....
1328.... 1198-A.	Wire—plain, barbed	85	75	10	.....	.....	.....
1330-A.	Wire cloth	.....	.....	.....	160	150	10
1332-A. 1332-1..	Wire fencing	90	75	15	175	150	25
1332.... 1332-2..	Staples, steel stay guards	.....	.....	.....	175	125	50
1332.... 1332-3..	Wire stretchers	.....	.....	.....	175	125	50
1052.... 1333....	Wire, insulated	110	75	35	.....	.....	.....
1336-A.	Wire rods	80	75	5	.....	.....	.....
1056.... 1337....	Wire rope cable	110	75	35	.....	.....	.....
1058.... 1337-1..	Wire telephone cable	110	75	35	.....	.....	.....
1338-A.	Zinc spelter	80	75	5	.....	.....	.....

EXHIBIT 46.—*Additional representative reductions in transcontinental freight rates proposed by rail carriers in competition with Panama Canal routes in fourth section application No. 10172, before Interstate Commerce Commission (now pending)—Rates and amount of reductions are averaged from originating territory, Atlantic seaboard to Colorado, inclusive, to Pacific coast terminals.*

[Cents per hundredweight.]

Item No., supplementary Schedule C list.	Commodity.	Carload rate.			Less than carload.		
		Average rate at present.	Proposed.	Reduction.	Average rate at present.	Proposed.	Reduction.
5	Parts for agricultural implements				276	150	126
10	....do				231	150	81
15	....do				194	150	44
20	Ammonia, sulphate, Chicago and West	60	50	10			
25	Ammunition and gun implements				276	150	126
30	Bullets, shot				231	150	81
35	Argol	194	75	119			
40	Bags, cotton	125	90	35			
45	Bats, baseball				231	175	56
50	Beehives and honey, section frames	100	90	10	231	150	81
55	Beverages, flavored or phosphated mineral water				231	150	81
60	Beverages, in bulk in barrels				194	150	44
65	Bluing, laundry				276	150	126
70	Bluing, laundry, in bulk in barrels				231	150	81
75	Brass, bronze or copper goods, not silver plated:						
	Pipe or tubing	115	85	30			
	Pipe or tubing covered or lined with iron or steel	100	85	15	276	125	151
	Blanks	150	85	65			
	Plate or sheet, strip, bar or rod	150	85	65			
80	Bars, rough cast cakes, ingots, pigs or slabs	150	85	65	231	125	106
85	Cocks, valves, pipe fittings, brass or bronze				276	150	126
90	Cable, electric, telephone and power iron wire				231	150	81
95	Cable, insulated				276	150	126
100	Candles	100	75	25			
	Paraffin, wax	90	75	15			
105	Canned goods, or				194	160	34
110	Preserves, pickles, and				231	160	71
115	Table sauces, as				276	160	116
120	Shown				319	160	159
125	Canned goods, as shown	276	75	201			
		150	75	75			
		110	75	35			
		100	75	25			
		90	75	15			
		75	75				
135	Cement, liquid	319	80	239			
	Cement paste	276	80	196			
140	....do				276	175	101
145	Ceramic slabs				125	80	45
150	Barley malt, Chicago and West				75	65	10
165	Buckwheat flour, Chicago and West				90	75	15
	And various, as shown				85	75	10
175	Coconut, concentrated or desiccated	276	150	126			
180	Co'ee, co'ee substitutes	231	160	71			
185	Co'ee, co'ee substitutes, in boxes or double bags	194	160	34			
190	Chicory in bags, and co'ee substitutes	110	90	20			
195	Compounds, polishing and buffing, n. o. s				231	150	81
200	Polish, furniture; polish, metal				276	150	126
205	Conduits	103	85	18			

EXHIBIT 46.—*Additional representative reductions in transcontinental freight rates proposed by rail carriers in competition with Panama Canal routes in fourth section application No. 10172, before Interstate Commerce Commission (now pending)—Rates and amount of reductions are averaged from originating territory, Atlantic seaboard to Colorado, inclusive, to Pacific coast terminals*—Continued.

Item No., supplementary Schedule C list.	Commodity.	Carload rate.			Less than carload.		
		Average rate at present.	Proposed.	Reduction.	Average rate at present.	Proposed.	Reduction.
215	Cotton-mill sweepings, etc., as shown	.....	.....	.....	231	150	81
220	Depilatory compound, Chicago and West	194	55	.....	.....	.....	.....
225	Dressing or blacking	.....	.....	.....	276	160	116
230	Dressing, harness, etc., in bulk in barrels	.....	.....	.....	231	160	71
235	Dry goods, as shown (other than C. P. G.)	319	90	229	319	135	184
240	Earthenware and stoneware	.....	.....	.....	115	95	20
245	Earthenware and chinaware, as shown	115	95	20	.....	.....	.....
250	Cable hangers	.....	.....	.....	231	150	81
255	Carbon brushes, carbon electrodes, carbons, arc lamp or battery	.....	.....	.....	276	175	101
260	Carbon electrodes, 4 inches or over in diameter	.....	.....	.....	319	175	144
265	Dry-battery cells	125	80	45	.....	.....	.....
275	Cable clamps, clevis yokes, straps, arcing rods, hooks, and bolt eyes	166	80	86	.....	.....	.....
280	Insulators, etc., as shown	.....	.....	.....	276	150	126
285	Insulators, as shown	.....	.....	.....	231	150	81
290	Expansion bolts, steel pins, brackets, etc	166	75	91	.....	.....	.....
295	Expansion paving joint	166	80	86	.....	.....	.....
300	Fiber sheets	.....	.....	.....	276	150	126
305	Foods (animal), dog biscuits	110	85	25	.....	.....	.....
310	Foundry facings (graphite)	.....	.....	.....	276	135	141
315	Foundry facings, coal, etc	.....	.....	.....	194	135	59
320	Furniture, as shown	125 110	90 90	35 20	.....	.....	.....
325	Camp furniture	.....	.....	.....	276	175	101
330	Canvas cots	.....	.....	.....	231	175	56
335	Common glass, as shown	.....	.....	.....	194	175	19
340	Window glass, as shown	.....	.....	.....	276	175	101
342	Glass, rough, rolled, etc	125	90	35	.....	.....	.....
345	Glassware	.....	.....	.....	276	160	116
350	.....do	.....	.....	.....	231	160	71
355	Lights, floor, vault, or sidewalk	.....	.....	.....	194	175	19
360	Lights, porthole and deck	.....	.....	.....	319	175	144
365	Grape juice (unfermented)	110	90	20	.....	.....	.....
370	Graphite articles—crucibles, retorts, plugs	.....	.....	.....	276	150	126
375	Gums, copal, damar, shellac, etc	.....	.....	.....	276	150	126
380	Hames, wooden, iron trim	.....	.....	.....	194	150	44
385	Hardware, as shown	.....	.....	.....	276	150	126
390	.....do	.....	.....	.....	194	150	44
395	.....do	.....	.....	.....	276	150	126
400	.....do	.....	.....	.....	231	150	81
410	.....do	166	85	81	.....	.....	.....
415	Barn or warehouse door hangers, etc	.....	.....	.....	231	150	81
420	Door hangers, rail or track, other than barn or warehouse	.....	.....	.....	276	150	126
425	Trolley harps	.....	.....	.....	319	150	169
430	Frames, bucksaw, knocked down	.....	.....	.....	276	150	126
435	Fiber, flax tow and flax straw	110	75	35	.....	.....	.....
440	Insecticides or fungicides, liquid	150	85	65	231	190	41
445	Insecticides or fungicides, other than liquid	150	85	65	276	190	86
450	Swage blocks	.....	.....	.....	231	150	81
455	Blacksmith mandrels	.....	.....	.....	194	150	44
460	Box straps, iron or steel	.....	.....	.....	194	130	64
465	Bag fasteners or ties	.....	.....	.....	276	130	146
470	Fasteners, wood joint	.....	.....	.....	231	150	81

EXHIBIT 46.—*Additional representative reductions in transcontinental freight rates proposed by rail carriers in competition with Panama Canal routes in fourth section application No. 10172, before Interstate Commerce Commission (now pending)—Rates and amount of reductions are averaged from originating territory, Atlantic seaboard to Colorado, inclusive, to Pacific coast terminals*—Continued.

Item No., supplementary Schedule C list.	Commodity.	Carload rate.			Less than carload.		
		Average rate at present.	Proposed.	Reduction.	Average rate at present.	Proposed.	Reduction.
475	Castings (chain), malleable, rough, Chicago and West	75	55	20	.....	.....	.....
480	Castings, finished, agricultural implement, carriage, wagon, sleigh, hose, stepladder	.....	.....	.....	194	150	44
485	Castings, furniture and car seat, etc	.....	.....	.....	276	150	126
500	Iron ceilings	.....	.....	.....	194	150	44
505	Chains, auto tire	.....	.....	.....	276	175	101
510	Dredger bucket bases	150	80	70	.....	.....	.....
515	Joint hangers, post caps, bases	.....	.....	.....	194	125	69
520	Iron and steel lathing, expanded metal flooring, etc	90	75	15	.....	.....	.....
525	Steel fence posts	100	75	25	.....	.....	.....
	From group "J"	100	60	40	.....	.....	.....
535	Spiegeleisen, Chicago and West, except	166	45	121	.....	.....	.....
	From group "J"	166	36	130	.....	.....	.....
540	Pipe fittings, etc., as shown, Chicago and West	70	60	10	194	150	44
	Water gates	100	60	40	194	150	44
545	Fire hydrants	100	60	40	231	150	81
550	Iron or steel, cold rolled	.....	.....	.....	194	125	69
	From group "J"	.....	.....	.....	160	100	60
555	Coping, eave troughs, flashing, etc	.....	.....	.....	276	125	151
	From group "J"	.....	.....	.....	160	100	60
565	Shutters and doors, steel plate	.....	.....	.....	194	150	44
570	Tubing, iron	100	80	20	.....	.....	.....
575	Jacks, screws, railroad track jacks and ratchet jacks	.....	.....	.....	231	150	81
580	Lime phosphate	110	90	20	.....	.....	.....
590	Nets and netting, fish	.....	.....	.....	319	150	169
595	Oilcloth and linoleum, cork carpet	.....	.....	.....	276	125	151
600	Wood carpet	.....	.....	.....	231	125	106
605	Paint stains	166	75	91	.....	.....	.....
610	.....do	.....	.....	.....	194	125	69
615	Paper laundry wrappers, towels and toweling, cups folded flat, filtermasse	.....	.....	.....	276	150	126
620	Filter paper	.....	.....	.....	231	150	81
625	Filter paper, filtermasse	231	90	141	.....	.....	.....
	Laundry wrappers, cups, folded flat	194	90	104	.....	.....	.....
	Photographic mounts	319	90	229	.....	.....	.....
630	Paper boxes, egg cases, fillers, etc	.....	.....	.....	276	180	96
635	Paper boxes, etc., folded flat	.....	.....	.....	231	180	51
640	Building roofing felt, tar board, etc	.....	.....	.....	231	150	81
645	Wood-pulp board, corrugated or indented	.....	.....	.....	276	150	126
650	Wall paper or wall-paper sample books	.....	.....	.....	276	175	101
655	Toilet paper, paper towels, Chicago and West	90	80	10	.....	.....	.....
665	Pumps and fixtures, hand or windmill, taking second class	.....	.....	.....	276	160	116
670	Same, taking third class	.....	.....	.....	231	160	71
675	Pump parts, second class	.....	.....	.....	276	160	116
680	Pump parts, third class	.....	.....	.....	231	160	71
685	Pump parts, fourth class	.....	.....	.....	194	160	34
690	Railway supplies, as shown	.....	.....	.....	194	150	44
695	Brake shoes	70	55	15	.....	.....	.....
	Group "J", Chicago and West	55	40	15	.....	.....	.....
700	Asbestos, as shown, roofing felt	100	80	20	.....	.....	.....

EXHIBIT 46.—*Additional representative reductions in transcontinental freight rates proposed by rail carriers in competition with Panama Canal routes in fourth section application No. 10172, before Interstate Commerce Commission (now pending)—Rates and amount of reductions are averaged from originating territory, Atlantic seaboard to Colorado, inclusive, to Pacific coast terminals*—Continued.

Item No., supplementary Schedule C list.	Commodity.	Carload rate.			Less than carload.		
		Average rate at present.	Proposed.	Reduction.	Average rate at present.	Proposed.	Reduction.
705	Rubber (crude); rubber (shoddy)	.....	.....	.....	319	175	144
710	Rubber filler	.....	.....	.....	231	175	56
715	Salt	60	45	15	.....	.....	.....
	Chicago and West	50	45	5	.....	.....	.....
720	Scales	.....	.....	.....	276	170	106
730	Soap, etc	80	60	20	.....	.....	.....
735	Soda ash, group "D" and West.	55	45	10	.....	.....	.....
740	Sodium, aluminum, sulphate	120	75	45	.....	.....	.....
745	Stove boards	166	90	76	.....	.....	.....
750	Tile, as shown	.....	.....	.....	194	125	69
755	Tiling floor (cork, rubber, or composition)	.....	.....	.....	276	150	126
760	Tires, rubber (not pneumatic)	.....	.....	.....	276	175	101
765	Trunk covering	194	95	99	231	150	81
770	Twine and cordage, taking third class	.....	.....	.....	231	150	81
775	Rope twine, taking second class	.....	.....	.....	276	150	126
780	Axles, iron, steel	.....	.....	.....	231	150	81
785	Skeins and axle boxes, axle nuts	.....	.....	.....	194	150	44
790	Vehicle parts, self-propelling	.....	.....	.....	231	175	56
795	Wax	.....	.....	.....	231	175	56
800	Wax, shoe or harness makers'	.....	.....	.....	276	175	101
805	Steel fence posts	100	75	25	.....	.....	.....
810	Post, iron or steel	.....	.....	.....	194	125	69
815	Armored insulated cable	194	75	119	.....	.....	.....
825	Wire cloth and netting, iron, steel	120	75	45	.....	.....	.....
830	Wringers, other than power	.....	.....	.....	276	150	126

TONNAGE LAKE LINES, 1914, AND COMPARISON WITH COMPLETED MISSOURI RIVER IN ESTIMATED RELATIVE CAPACITY FOR EARNINGS UPON AND COST OF HANDLING TRAFFIC PER DOLLAR INVESTED (EXHIBITS 47–48).

EXHIBIT 47.—*Interstate Commerce Commission I. & S. Docket 615—Composite of Fell's Exhibits Nos. 3 and 5—Classification of tonnage for year ended Dec. 31, 1914.*

[Lake lines, viz: Erie R. R. Lake Line, Erie & West. Trans. Co., Lehigh Val. Trans. Co., Mutual Transit Co., Rutland Transit Co., Western Transit Co.]

Commodity.	Tonnage.					
	Total.	Per cent.	Eastbound.		Westbound.	
			Total.	Per cent.	Total.	Per cent.
Products of agriculture:						
Grain	309,459	9.49	309,159	13.87	300	0.03
Flour	.....	.....	1,075,536	48.24	206	.02
Other mill products	1,557,539	47.77	480,640	21.56	1,157	.11
Hay	7,234	.22	7,234	.32	.....	.....
Tobacco	1,965	.06	85	.....	1,880	.18
Cotton	8,774	.27	8,749	.39	25	.....
Fruits and vegetables	89,686	2.75	8,033	.36	81,653	7.92
Other products of agriculture	63,592	1.95	49,356	2.21	14,236	1.38
Total	2,038,249	62.51	1,938,792	86.95	99,457	9.64
Products of animals:						
Packing-house products	1,340	.04	826	.04	514	.05
Poultry, game, and fish	6,035	.18	2,058	.09	3,977	.38
Wool	9,527	.29	9,159	.41	368	.04
Hides and leather	3,719	.12	171	.01	3,548	.34
Other products of animals	11,803	.36	2,236	.10	9,567	.93
Total	32,424	.99	14,450	.65	17,974	1.74
Products of mines:						
Anthracite coal	58,920	1.81	.....	.....	58,920	5.72
Ores	438	.02	211	.01	227	.02
Stone, sand, and other like articles	12,007	.36	88	.....	11,919	1.16
Other products of mines	110,486	3.39	93,958	4.22	16,528	1.60
Total	181,851	5.58	94,257	4.23	87,594	8.50
Products of forests:						
Lumber	51,844	1.59	51,202	2.30	642	.06
Other products of forests	39,958	1.23	38,807	1.74	1,151	.11
Total	91,802	2.82	90,009	4.04	1,793	.17
Manufactures:						
Petroleum and other oils	9,227	.28	470	.02	8,757	.85
Sugar	198,677	6.09	17,342	.78	181,335	17.59
Naval stores	1,065	.03	1	.....	1,064	.10
Iron, pig and bloom	.....	.....	.....	.....	3,803	.37
Iron and steel rails	.....	.....	190	.01	10,781	1.05
Other castings and machinery	84,010	2.58	369	.02	68,867	6.68
Bar and sheet metal	48,476	1.49	907	.04	47,569	4.61
Cement, brick, and lime	24,444	.75	35	.....	24,409	2.37
Agricultural implements	11,785	.36	6,127	.27	5,658	.55
Wagons, carriages, tools, etc	3,108	.10	315	.01	2,793	.27
Wines, liquors, and beers	6,517	.20	3,336	.15	3,181	.31
Household goods and furniture	16,938	.52	271	.01	16,667	1.62
Other manufactures	353,301	10.83	35,366	1.59	317,935	30.83
Total	757,548	23.23	64,729	2.90	692,819	67.20
Miscellaneous commodities not specified	99,811	3.06	21,750	.98	78,061	7.57
Merchandise	59,016	1.81	5,659	.25	53,357	5.18
Total revenue freight	3,260,701	100.00	2,229,646	100.00	1,031,055	100.00

Eastbound, 68.38 per cent; westbound, 31.62 per cent.

Classification made in accordance with the "Classification of freight commodities of the Association of American Railway Accounting Officers," issued in 1911.

NOTE.—Witness F. J. Fell is chief statistician of the Pennsylvania R. R. lines east of Pittsburgh and in this case testified as chairman of the accounting committee of the lake lines. (Tr., p. 14.)

EXHIBIT 48.—*Comparison of Missouri River with Great Lakes transportation.*

[Basis: An investment of $1,000,000 in towboats and barges designed for and operated upon a permanent 6-foot channel of the Missouri River—Kansas City to St. Louis—compared with 6 package freight lake lines reporting to the Interstate Commerce Commission for the 1914 season. I. & S. Docket 615.]

	Horse-power (each).	Towing capacity (tons per trip).	Trips per season.	Season capacity (tons).	Investment.
Great Lakes fleets[1]					
Missouri River fleet:					
Towboats	1,500	2,000	64	128,000	$136,000
5 units		2,000	320	640,000	680,000
Merchandise barges: 16 units of 1,000 tons carrying capacity each, at $20,000					320,000

[1] 50 boats having a combined cargo-carrying capacity of 199,300 tons.

COMPARATIVE TONNAGE AND EARNINGS PER DOLLAR OF INVESTMENT.

	Investment.	Tonnage (season).	Gross earnings.	Tons per dollar of investment.	Gross earnings per dollar of investment.
Lake fleet	$11,099,958	3,260,683	$4,981,836	0.29	$0.45
River fleet	1,000,000	640,000	1,220,000	.64	1.22

Gross earnings per ton: Lake, $1.53; river (estimated), $1.75.

APPENDIX A.

[Missouri River. Before the Board of Engineers for Rivers and Harbors of United States. Improvement of Missouri River. Supplemental brief for the commercial interests of Missouri River Valley in opposition to report of Lieut. Col. Herbert Deakyne. Hearing Kansas City, Oct. 19, 1915. Prepared under the direction of the Commercial Club of Kansas City. River improvement committee: W. T. Bland, chairman, president McPike Drug Co. (wholesale druggists); F. G. Crowell, vice president and secretary Hall-Baker Grain Co. (grain and elevator operators); Walter S. Dickey, president W. S. Dickey Clay Manufacturing Co., and president Kansas City Missouri River Navigation Co.; C. D. Parker (C. D. Parker & Co., U. S. Water & Steam Supply Co.); Leon Smith, president Smith-McCord-Townsend Dry Goods Co. (wholesale dry goods); O. V. Wilson, president Ryley-Wilson Grocery Co. (wholesale grocers); R. L. Redpath, plant manager American Radiator Co. Assisting officials: Hon. Wm. P. Borland, Representative in Congress, fifth district of Missouri; E. M. Clendening, general secretary the Commercial Club; R. D. Sangster, transportation commissioner the Commercial Club; Geo. H. Forsee, industrial commissioner the Commercial Club; W. R. Rowe, assistant to the industrial commissioner the Commercial Club; A. W. Mackie, secretary Kansas City Missouri River Navigation Co.; Jerome Thralls, secretary-cashier Federal reserve bank at Kansas City, Mo.]

SUPPLEMENTAL BRIEF.

AN INCREASE OF RAIL FACILITIES WILL COST MORE THAN THE IMPROVEMENT OF THE MISSOURI RIVER.

It was stated in our principal brief that the present rail facilities in the Missouri Valley were by no means adequate to the existing commerce and that an increase in these rail facilities in the near future must be anticipated. This increase could occur either by the construction of another line between Kansas City and St. Louis, or by double-tracking one or more of the existing lines, or both. It was also stated that the additional capitalization required for an increase of the rail facilities must be met in some form by the shipping public, so that the fact that the river is not improved, assuming that it is susceptible of improvement and actual use as a highway of commerce, does not mean that the public or the Nation at large will save the amount that would be expended for the improvement. It resolves itself into a simple choice of which is the better and cheaper form of providing additional facilities for traffic. The Government has already appropriated $6,250,000 for the improvement of the Missouri River from Kansas City to the mouth, and the balance necessary to be appropriated to complete the project is $13,250,000.

The Missouri River is equal in carrying capacity to many additional lines of railway, some estimates placing it as high as 100 lines of single-track road. We now wish to demonstrate by official figures founded upon actual appraisements that the estimated cost of improving the Missouri River is less than the cost of a single additional

line of railway between Kansas City and St. Louis, and is less even than the cost of double-tracking one of the existing lines. We also undertake to show that the cost of maintaining a single additional rail line is thirteen times the cost of maintaining the improved river, so that even if the original cost of an additional single-rail line, or the double-tracking of an existing line, were cheaper than the continuation of the improvement of the Missouri River, the cost of maintenance alone would turn the scale in favor of utilizing the river. For this purpose we desire to submit herewith a letter from Hon. C. F. Newman, valuation attorney for the Interstate Commerce Commission, Division of Valuation for the western district.

INTERSTATE COMMERCE COMMISSION,
DIVISION OF VALUATION, OFFICE OF WESTERN DISTRICT,
Interstate Building, Kansas City, Mo., October 27, 1915.

Hon. WM. P. BORLAND,
518 Keith & Perry Building, Kansas City, Mo.

DEAR SIR: The receipt of your letter of October 22 is hereby acknowledged.

The engineering department of the Division of Valuation, Interstate Commerce Commission, has not completed enough Missouri work to enable them to submit any actual data as to the present cost of construction of railways between Kansas City and St. Louis. Certain parts of the property of the carriers—for instance, the roadbed, ties, rails, etc.—have been inventoried, but the work on other property of the carrier—such as, for instance, stations, buildings, etc.—has not been completed between these two points.

From the work they have done, however, and from their experience in the past as railroad engineers, the officials in charge of the engineering department of this district are able to give a fairly accurate estimate of the total cost of a single-track railway between the two cities. Their estimate is that the cost thereof would be approximately $55,000 per mile, of which $15,000 would represent rolling stock, equipments, etc., and $40,000 would represent the roadbed, ties, rails, etc., which, on a basis of 280 miles, would make a total of $15,400,000.

On the basis of the present investment of a single railway in terminal properties, they estimate that the terminals at Kansas City and St. Louis would cost approximately $5,750,000, or $17,000 per mile in round numbers, making a total investment in road and equipment of $21,150,000.

They report that it would cost comparatively very little less to double-track a road already in existence, viz, between $30,000 and $35,000 per mile.

Relative to the cost of maintenance per year, their estimate is that the cost to maintain the roadway and equipment would amount to $2,500 per mile per year, or a total of $6,500,000 per year for a single railway. This estimate is based upon railway statistics in general, and upon their experience as railway engineers.

No terminal real-estate appraisals have been made in either city, except that some outlying terminal property has been appraised in Kansas City, which, however, would not be indicative of the value of such terminals as would be necessary for a carrier to own.

Neither have any appraisals been made of railway terminals between the two cities.

It is impossible for us to give you the amount of rolling stock now used over the lines in Missouri. Neither are we able to furnish any statistics on the amount of rolling stock which would be required of a carrier operating exclusively between St. Louis and Kansas City. The estimate of the engineers is, however, that the following would be necessary, viz: Fifty locomotives, 40 passenger cars, 3,000 freight and miscellaneous cars.

Trusting that this information will be satisfactory, I beg to remain,
Yours, truly,

C. F. NEWMAN,
Valuation Attorney.

We desire also to submit a letter from Hon. T. M. Bradbury, secretary of the Public Service Commission of the State of Missouri:

STATE OF MISSOURI, PUBLIC SERVICE COMMISSION,
Jefferson City, October 26, 1915.

Hon. WM. P. BORLAND,
Member Committee on Appropriations,
518 Keith & Perry Building, Kansas City, Mo.

DEAR SIR: This will acknowledge receipt of your letter of October 22 requesting data on cost of constructing and maintaining a single-track line between St. Louis and Kansas City; also an estimate of cost to double-track any of the existing lines between above points.

Beg to inform you that the commission has no specific data covering the points you mention. The Interstate Commerce Commission specifies the accounts to be

currently kept by carriers and although the reports to this commission contain a statement of operating expenses for the State of Missouri, these figures are only approximations and not based on actual records.

In the recent application for an increase in freight and passenger rates before this commission, certain data relative to reproduction costs and operating expenses were submitted which may be of some service to you. The exhibits are voluminous, detailed, and unfortunately in many cases disconnected. The following information gathered from various sources may serve your needs:

The Chicago, Rock Island & Pacific Railway introduced testimony to the effect that their single-track line from St. Louis to Kansas City, a distance of 285.36 miles, cost $17,101,920.16, or $59,930.19 per mile exclusive of equipment; adding the equipment the cost per mile was given as $70,829. The Chicago, Rock Island & Pacific Railway, however, has no terminals at St. Louis.

We are sending you under separate cover copy of Missouri Pacific Railway Exhibit[1] No. 22 submitted in application mentioned above. This exhibit is a valuation of Missouri Pacific Railway property in Missouri, by C. H. Middleton, an independent engineer acting for the carrier. The second column of figures headed "Main line" and totaling $42,884,440, covers the main line from St. Louis to Kansas City; the third column refers to the river route—Cole Junction to Independence. Mr. Middleton testified that this exhibit includes value of 281 acres of land in Kansas City and 233.6 acres in St. Louis. He states the average cost of right of way land, exclusive of Kansas City and St. Louis, is $65 per acre, and quotes square foot prices of land used in valuation at Kansas City, as follows: State line to Broadway, $2.75; Broadway to Grand Avenue, $2; Grand Avenue to Troost Avenue, $1.50; Troost to Parker, $1; Parker to Cleveland, 60 cents; Cleveland to Topping, 40 cents; Topping to Kansas City street crossing, 15 cents; Kansas City street crossing to city limits, 10 cents; Edgewater terminals in wholesale district, $1.90.

The total Missouri mileage of the Missouri Pacific Railway covered by foregoing exhibit is 945.56 miles.

In the annual report of the Missouri Pacific Railway for the fiscal year ending June 30, 1914, we find the cost of maintenance of way and structures given as $1,545,277.31, and of maintenance of equipment $1,884,373.82. This, of course, covers all lines of the Missouri Pacific Railway in the State of Missouri, and represents annual charge.

During the hearings of the carriers' application for rate increases, the Chicago, Burlington & Quincy Railroad submitted their valuation based on three times the assessed valuation, which they claim is commonly used. We, therefore, are sending you a copy of the journal of the State board of equalization for the year 1914;[1] on pages 118 and 119 you will find the Missouri Pacific main line statistics set forth.

There is no data on file showing the approximate cost of double-tracking any of the existing lines between St. Louis and Kansas City.

If there is any additional information in the files of the commission that will be of assistance to you, or if you can send some one to Jefferson City familiar with your requirements, the commission will gladly render him any assistance possible in preparing the statistics desired.

For the Commission.

T. M. BRADBURY,
Secretary.

MORE STATEMENTS FROM SHIPPERS.

The Haywood Alfalfa Warehouse Co.

The importance of the Missouri River boat line from Kansas City to St. Louis as it runs at present is but a small part of its value to the western shipper.

With our little Missouri River line as a starter, barge lines are already underway from Chicago to New Orleans with rates on same basis, or 80 per cent of the all-rail rate, which opens up a vastly more important business than any haul from Kansas City to St. Louis. For instance, the all-rail rate from Colorado common points to New Orleans is 38 cents; the river rate is 34.2 cents, a saving of 3.8 cents, or 76 cents per ton.

The all-rail rate to Boston is 50.4 cents, while the water rate via Missouri, Mississippi, and Illinois Rivers, the Chicago Canal, and the Great Lakes would be 45.3 cents, or a saving of $1.02 per ton.

The Panama Canal has recently put into effect a flat 35-cent water rate from Pacific coast points to Atlantic seaboard points, enabling the California alfalfa miller to market choice alfalfa meal in New York, Boston, or Philadelphia at $22 per ton.

---

[1] Not printed.

Deduct from this $22 the 50.4 cents all-rail rate from Colorado common points and you have $11.92 left for the Colorado miller, which will not pay cost of raw materials.

His only recourse is the two rivers to New Orleans on a 34.2-cent rate, and an ocean rate of 10 cents to Atlantic seaboard, total 44.2-cent rate, or $8.84 deducted from $22 leaves $13.16, which will barely let him out in competition with California.

The situation developed by this 35-cent ocean rate is so serious to all Middle West alfalfa millers that on present all-rail rates he is totally excluded from Atlantic coast territory.

We have given the Kansas City Missouri River Navigation Co. during the past 12 months 1,660 tons alfalfa meal, which would have been multiplied many times were they able to let us out of St. Louis, South and Southeast.

This the present railroad rates will not permit, as witness the following Kansas City to Cairo all-rail for group 3 points is 9 cents.

The river rate to St. Louis 6.4 cents, plus the flat rail rate St. Louis to Cairo 8.8 cents, total 15.2 cents, penalizing the boat line 6.2 cents, or $1.24 per ton.

Likewise on New Orleans business add the river rate to St. Louis 6.4 cents, to the flat all-rail rate St. Louis to New Orleans 16 cents, equals 22.4 cents, while the all-rail rate is 19 cents, a penalty of 3.4 cents, or 78 cents per ton on the boat line.

Or, take Memphis: Add the river rate, 6.4 cents, to the flat rail rate of 10 cents from St. Louis, equals 16.4 cents, while the all-rail rate is 13 cents, a penalty of 3.4 cents on the boat line.

The State of Colorado alone ships through Kansas City to the South and Southeast over 100,000 tons of alfalfa meal annually, 75 per cent of which could and would move by our boat line if they were able to handle it.

Mark my words, gentlemen, if a water outlet is not provided in the very near future, a large part of this tonnage will be lost to Colorado and Kansas City and be absorbed by California through her cheap Panama Canal rates.

The sole and only salvation of this business to Kansas City and the West is cheaper water transportation. Alfalfa meal is a new feed; it has only been on the market eight or nine years, and it is but a drop in the bucket compared to the grain by-product feeds like bran and shorts, and they will all be affected in exactly the same way.

My experience with our boat line has been unexpectedly satisfactory; I have found them prompt, reliable, and the courtesy extended to shippers is indeed pleasing. I believe the attitude of the railroads to the boat line in rate matters is a mistake; the boats should be and are a help rather than price competition.

In times of heavy crop movements the railroads are utterly unable to handle the business and should and will in the future welcome the relief afforded on low-priced tonnage by our boat lines.

Gentlemen, we are strong for the boat line; may it wax big and hearty and extend its operation to all navigable waters of the Mississippi River Basin.

A. S. Barada & Co.—Chemicals and essential oils.

Answering your favor of the 9th regarding the use we have made of the Missouri River in connection with the Kansas City Missouri River Navigation Co. service, beg to advise that we would have no trouble whatever in routing from 10 to 15 or 20 cars per season over the boat line.

Our experience is that they have only been able to take care of about one out of every four or five we have routed their way, as they were unable to take care of the business, due to the condition of the river and their limited capacity.

We make it a rule to route considerable of our freight via the boat line, and in the event they are unable to take care of same the cars are rerouted via all-rail and East St. Louis.

Irving-Pitt Manufacturing Co.—Books and forms.

We could, however, use the boat line from here to St. Louis to the extent of some 12 to 15 cars per year, which we realize is small in comparison with that of other concerns located in Kansas City.

Webb-Freyschlag Mercantile Co.

Since the opening of navigation for this year up to the present date the Missouri River Navigation Co. have delivered to us approximately 46 tons of freight and several shipments are yet to be delivered. We intend using the Missouri River Navigation Co. just as extensively as possible, and also want to aid them in any way, as it means a great deal to Kansas City merchants and also to merchants in Kansas City territory.

We have in some instances hesitated to route light shipments via the boat line, because of the fact that their delivery, with the river in its present condition, is not regular and safe to count on in any certain time.

Respectfully submitted.

THE COMMERCIAL CLUB OF KANSAS CITY.

STATEMENT AND ARGUMENT ON BEHALF OF THE COMMERCIAL CLUB OF OMAHA BEFORE THE BOARD OF ENGINEERS FOR RIVERS AND HARBORS.

[Statement and argument supplementary to representations presented at Kansas City hearing on behalf of the Commercial Club of Omaha. Submitted by the Missouri River Navigation Committee. J. W. Gamble, chairman; Robert H. Manley, commissioner. John L. Kennedy, of counsel.]

I. The record made before the board of engineers at the Kansas City hearing is voluminous. Not all of the presentation is relevant to the single issue involved. This brief has been prepared with the idea of reducing the presentation of the position of Omaha to the narrowest limits consistent with the importance of the subject and the extent of the interest of this community. A chapter will be devoted to discussion of the report of the district engineer officer, another to the subject of river improvement in its broad and general aspects, and a third to the particular situation of this community.

II. Report of the district engineer officer. The essential features of this report are:

(1) The admission that it has been demonstrated that the improvement of the river from Kansas City to its mouth can be completed within the total estimated cost.

(2) The question of modifying or abandoning the project is one to be decided by a comparison of the cost involved with the benefits derived.

(3) The benefits derived are represented by the increased facilities for navigation.

(4) The advantages that commerce will obtain from the improvement are: (a) Actual saving in freight charges; (b) competitive effect on railroad rates.

(5) The saving made on present traffic ($10,000) is inadequate to warrant the expenditure of $1,100,000 per annum in interest and maintenance.

(6) The inference that there is ample governmental machinery for controlling the railroads and no necessity therefore for improving the river in order to bring about effective competition.

(7) That the river is paralleled by railroads on both banks and that the facilities for caring for commerce are ample.

(8) That the project (for improvement of the river) must stand or fall as judged by the criterion of prospective commerce, and that the prospect does not warrant the improvement.

Before proceeding to discuss the report of the district engineer officer, we respectfully submit that we will do so in no spirit of hostility. We are satisfied to proceed upon the assumption that the report is offered as the honest opinion of the district officer based upon the facts as ascertained and observed by him. Our purpose will be to indicate to the board the facts that were probably not accessible to the district officer, and to offer the board our conclusions based on the broader showing. We venture to suggest that the report of the district officer would probably have been varied materially if the situation had been presented to him as fully as it has been to the board.

III. (1) Since it is admitted in the report that the project for the improvement of the lower river can be completed within the estimates and that from the engineering standpoint, no insuperable difficulties are presented, there is no necessity for going back of the action of Congress and dealing with the basic questions. The only question is, Is the situation such now in the light of existing facts, that the board would be justified in recommending to Congress that the millions already expended be "charged off" and the improvements abandoned? This brings us naturally to number (2). We agree with the report that the question before the board is one which must be decided by balancing the cost against the benefits derived. Our contention is that the question of the benefits derived has infinitely broader aspects than those suggested in the report under heads (3), (4), and (5). Our contention is further that the improvement of the navigable rivers draining the great Mississippi Valley is absolutely necessary to the development of the country. We admit, of course, that this may affect the railroad rate structure as a whole, but that is a mere incident. The real, basic fact is that rail transportation is not developing fast enough to take care of the natural growth of commerce in the Mississippi Valley. The railroads admit the truth of this and claim it is due to their inability to get the capital necessary to

make additions to their plants because they are not earning enough money above operative cost to make railway investments attractive. They have urged this contention upon the Interstate Commerce Commission and upon the public consistently and continuously since 1910. If the rivers in this valley are not utilized, we will find ourselves chronically short of transportation facilities. Right now, there is a shortage of cars and the movement of our commerce is congested. The same thing happens nearly every fall, when grain, lumber, coal, and merchandise are offering freely. Interstate Commerce Commission has recognized the car shortage and has circularized the country, urging shippers to cut down car detention and to utilize car space fully.

The only escape from this situation is utilization of the navigable streams. This will divide the tonnage of the valley into two parts—that which requires rail transportation and that which may be water-borne. The real and big benefit from the development of water transportation will come from relieving the rail carriers of the heavy bulk freight and permitting them to use their facilities for the balance. As we will show later, there is ample business for both rail and river. Both the rail carriers and the shipping public, therefore, will benefit by the full use of the rivers. That benefit can only be measured by the tremendous development it will bring to the entire Mississippi Valley, a result far transcending any direct, traceable money benefit such as those referred to in the report under discussion. It will amply justify all the expenditure necessary for the improvement of the Missouri River and we submit that the board is justified by the situation in adopting the broader view because the history of the development of the valley shows to every student of it that it has more than justified the expenditure of all the millions already granted by the Government for the creation and improvement of rail transportation facilities.

(6) The district engineer officer proffers the suggestion that there is ample governmental machinery for controlling and regulating the railways. If we were seeking to have the river made navigable for the sole purpose of breaking down railway rates, it is possible we could obtain the same result by invoking the regulatory power. We reiterate that such is not our basic reason for desiring water carriage. We have relied too long upon the development of rail transportation. It has admittedly not kept pace with the growth of commerce. Water transportation must be developed to relieve and supplement rail carriage. There is no power vested in any regulatory body under the present state of the law to compel the creation of additional rail transportation facilities. There are on the other hand severe limitations upon the actions of those tribunals. Recently, all rates in the vast territory east of the Mississippi and north of the Ohio River were permitted to be advanced 5 per cent because the carriers showed that they needed the money. The demand for similar advances in the valley were partially granted upon the same showing. No relief from present rail conditions is possible, therefore except by the development of new avenues of transportation. If the railroads were relieved of the burden of transporting those commodities that can be handled more cheaply by water, they could utilize their present facilities more effectively and more cheaply and would not be faced with the necessity for obtaining vast amounts of additional capital for extension of their facilities.

(7) It is true that the river is paralleled upon both banks, from Sioux City to its mouth, by railroad tracks. The conclusion drawn from that fact is, however, erroneous. No one will contend that the navigation of the river is necessary in order that purely local traffic of the cities and villages located on the river may be cared for. The claim is much broader than that. The local business of those communities is but an infinitesimal percentage of the traffic the river would carry if it could be utilized. It is the great stream of traffic from and to the hinterland, of which traffic the cities of St. Louis, Kansas City, St. Joseph, and Omaha are depots and entrepots, for which river transit is required. And if it is provided, the rail carriers paralleling the river will find themselves better able to care for the purely local traffic than they are now.

(8) We agree heartily with the conclusion of the district engineer officer that the question of improvement of the river must stand or fall as judged by the criterion of prospective commerce, but we feel that the prospective commerce must be estimated upon an infinitely broader basis than that employed. It is stated that the project of improvement below Kansas City is 9 per cent completed. When Congress was pouring millions of money and granting millions of acres of land to aid in the development of rail transportation, who would have had the temerity to call an abrupt halt to those gifts and grants when one of the projects—say the Union Pacific—was completed from Omaha to Columbus, Nebr., which is 9 per cent of the distance to Ogden? No. Congress had the broader vision and took the broader view, just as we confidently anticipate this board will do. And we venture to suggest to the board

that even the wildest visionary among all the advocates of the building of the transcontinental railways would never have dared to predict that the development of the western country would justify the building of seven transcontinental railways or that within 50 years of the opening of the first one those railways would, jointly, carry 147,000,000 tons of freight, as they did in the year ending June 30, 1914. (Preliminary Abstract Statistics of Common Carriers, Interstate Commerce Commission.)

IV. When the original States delegated to the Federal Government exclusive control of commerce between the States the grant was not idly or lightly made. It was complete. Through the Congress the Central Government controls all the highways and the traffic that moves upon them, so far as that commerce is not the purely domestic concern of a single State. This enormous grant of power carries with it the grave obligation to so administer it that the greatest good will be accomplished and the largest benefits secured to the Nation as a whole. Congress has recognized this responsibility and has done much to discharge the duty properly. Witness the tremendous grants of money and lands to induce the building of railways. Witness the millions poured into harbor improvements, the building of canals, docks, turnpikes, all for the development of commerce, never, it should be understood, to take care of commerce already created. It is a truism that the creation of facilities must precede the employment of them.

We confidently assert that not one of the projects upon which such vast sums have been expended has directly repaid the Government for the expenditure, and we also desire to emphasize the point that not one of them was ever conceived and carried out upon the basis of a demonstration that it would pay at once. The Pacific railroads were aided largely because their construction was as much of a military as a commercial necessity. The Panama Canal—that glorious monument to the ability and efficiency of the Army engineers—might never have been undertaken by this Government except for the incident of the voyage of the *Oregon*. The entire east and west bound commerce handled by the seven trunk railroad boat lines on the Great Lakes during 1914 was 3,524,000 tons. To provide highways and harbors for this the Government spent $60,000,000 on the Great Lakes. The State of New York does not expect a direct return upon the $100,000,000 it is putting into its barge canal. The tolls would be prohibitory upon the direct cost and maintenance basis. So the Missouri River will never be made navigable if we must wait until we can demonstrate that tonnage is in sight to warrant the expenditure of the money. Of the 250,000 miles of railway in the United States only a very small percentage paid at the start. All our means of transportation have been built as developers and every one of them has justified the faith of its promoters.

It is a remarkable fact that this Nation, with the greatest natural resources of any the world has ever known, in which such wonderful progress has been made, such unprecedented prosperity enjoyed, should have proceeded so slowly, so haltingly in the development and use of its water highways.

No student of present rail transportation conditions is unaware of the really dangerous situation in which our country stands to-day because of her failure to develop her waterways. Every time there is an ordinary increase of the amount of traffic offered, the railways become congested and immense losses are sustained by the public to whom no other means of transportation are open. It remains for this board of engineers to give a great impetus to the growing movement for providing a means of escape from that constantly recurring condition. If no other result should ever flow from navigation of the Missouri-Mississippi Rivers than that of curing the (almost) annual congestion of business and preventing the yearly car shortage on the railways, the economic gain from that one thing would pay for the entire work. We urge upon the board to take the broad view and urge the completion of the contemplated river improvement, which will be a step toward the ultimate rescue of the valley from the consequences of the possible breakdown of railway transportation facilities.

V. The city of Omaha is so situated, geographically, that it must compete with Chicago, St. Louis, St. Paul, and Kansas City for the trade of the surrounding territory. It has seen Chicago and St. Paul and Minneapolis reap large benefits from their proximity to water shipping facilities. It has watched the development of same facilities between Kansas City and St. Louis and has aided Kansas City in every move that city has made to utilize the river, knowing full well that the opening of the lower river to practical use must at once be followed by the employment of the upper river. Alike with every city in the Missouri River Valley, Omaha has suffered from railroad congestion, car shortage, and their attendant evils. More recently, we have witnessed the direct effect of the opening of the Panama Canal, which has depressed rail rates between the Atlantic and Pacific seaboards to the lowest point they have reached since the railroad rebate became an outlawed practice. For all of these reasons, our people feel we must have water transportation. We must be in

a position where the reduction of rail rates across the continent by reason of the competition of the canal route will not leave us upon the top of a high hump and give all the benefits—direct and indirect—to our neighbors on the Pacific, the Atlantic and the Gulf. We can not pay rail freights from the Atlantic or the Gulf, if St. Louis Chicago, and other cities have an entire water haul. Unless we are upon navigable waters, our trade will be constricted in every direction. Instead of continuing to be a great distributing center as we are now, we will be a mere country town, and our trade will go to our more fortunate neighbors who have water carriage accessible.

For all these reasons, we urge that the improvement of the Missouri River be continued. We have shown the board that we have per annum the following potential water tonnage now:

	Tons.
Inbound:	
Coal	620,100
Hardwood lumber	20,000
Pine lumber	72,500
Outbound:	
Grain (67,000 cars)	2,211,000
Other carload freight (20,788 cars, estimated at 20 tons to the car)	415,760
Total	3,339,360

an amount equal to the entire tonnage in 1914 of the seven big boat lines on the Great Lakes. This takes no account of the immense inbound tonnage of iron, steel, wire, nails, bar and merchant iron, pig iron, a large portion of which could be carried by water.

Finally, we have joined our customers at Decatur in establishing water navigation and are using the upper river in its present untamed and unkempt state for the transportation of merchandise and commodities to Decatur and live stock and grain back. We have built a warehouse on the water front and have two boats and some barges in the trade—all this upon the faith that some day we will be enabled to employ this splendid facility of commerce to the fullest extent.

VI. To sum up the situation, we earnestly recommend to the board that the original plan for improvement of the lower river be carried out, so that, in the meantime, further plans may be formulated for improvement of the upper river. We urge this because we believe it is necessary to provide water navigation for the purpose (*a*) of delivering us from constantly recurring rail congestion; (*b*) of putting us in shape to reap the benefit of the canal route; and (*c*) of thereby providing the proper stimulus for a commercial development that will exceed that of the 50-year period following the completion of the transcontinental railways.

Let the board but take the initial step, the adoption of the broad view and the measurement of this project by the big standard and its action will not only meet the approval of all the people who at present inhabit the valley, but of those uncounted millions who will be brought here by the fruition of those plans that such foresight and wisdom will enable us to inaugurate.

Respectfully submitted.

COMMERCIAL CLUB OF OMAHA,
MISSOURI RIVER NAVIGATION COMMITTEE.
J. W. GAMBLE, *Chairman.*
ROBT. H. MANLEY, *Commissioner.*
JOHN L. KENNEDY, *of Counsel.*

OMAHA, NEBR., *November 4, 1915.*

HEARING OF BOARD OF ARMY ENGINEERS ON KANSAS CITY'S APPEAL FROM THE DEAKYNE REPORT.

INDEX.

	Page.
Announcement by chairman of purpose of hearing	156
Preliminary statement by Congressman W. P. Borland	156
Walter S. Dickey, president Kansas City Missouri River Navigation Co	160
A. W. Mackie, secretary Kansas City Missouri River Navigation Co	168
Col. P. W. Coyle, commissioner Business Men's Association, St. Louis	180
A. D. Spear, Business Men's Association, Chamois, Mo	182

Afternoon session, October 19.

	Page.
Walter Parker, general manager, Association of Commerce, New Orleans	186
Col. Fred Bennett, manufacturer, Joliet, Ill	192
E. L. Platt, Commerce Club, St. Joseph, Mo	195
E. J. McVan, Commercial Club, Omaha, Nebr	196
Jewell Mayes, secretary, State Board Agriculture, Ray County, Mo	203
J. W. Brockett, St. Joseph, Mo	205
M. M. Stephens, chairman Illinois Waterways Commission	207
C. F. Shafer, Saline County, Mo	208
August Wohlt, Hermann, Mo	211
Curtis Hill, city engineer, Kansas City, Mo	212
A. A. Poland, general freight agent Kansas City Missouri River Navigation Co.	213

Evening session, October 19, 1915.

Edward F. Goltra, president Missouri Iron Co., St. Louis	230
Harry Burkhart, Standard Sanitary Manufacturing Co., St. Louis	233
J. W. Anderson, manager Kansas City Kornfalfa Feed Milling Co	235
Chester Newman, manager National Aniline Chemical Co., Kansas City	237
John H. Wiles, vice president Loose-Wiles Biscuit Co	238

Morning session, Wednesday, October 20, 1915.

Chairman's statement of time of closing hearing	238
Robert H. Manley, commissioner Commercial Club, Omaha	239
J. S. White, president H. F. Cady Lumber Co., Omaha	240
Charles F. Faeth, Faeth Iron Co., Kansas City	244
William Volker, jobber and manufacturer, Kansas City	244
Leon Smith, wholesale dry goods, Kansas City	245
Frank Ennis, Ennis, Hanly, Blackburn Coffee Co., Kansas City	247
C. J. Schmelzer, Schmelzer Arms Co., Kansas City	248
R. L. Redpath, manager American Radiator Co., Kansas City	249
R. M. Maxwell, wholesale dry goods, Kansas City	249
W. B. Richards, Richards & Conover Hardware Co., Kansas City	250
C. W. Jenkins, Jenkins Sons' Music Co., Kansas City	251
John C. Lester, Ridenour-Baker Grocery Co., Kansas City	252
Charles B. Overton, dental supplies, Kansas City	253
O. V. Wilson, Ryley-Wilson Grocery Co., Kansas City	254
C. D. Dooley, Peet Bros., soaps, Kansas City	257
C. D. Parker, plumbers' supplies, Kansas City	259
Walter S. Dickey, recalled	261
John W. McCoy, traffic manager, William Volker & Co	262
Edward F. Goltra, recalled	264
William T. Bland, Kansas City Commercial Club	265
John W. McCoy, recalled	266
A. W. Mackie, recalled	266
Walter S. Dickey, recalled	268
L. M. Kennedy, Omaha Commercial Club	270
C. M. Hardenbergh, manager, Southwest Milling Co	271
H. A. Fitch, president, Kansas City Structural Steel Co	274
Maximilian von Pagenhardt, naval architect, Kansas City, Mo	275

Afternoon session, October 20.

R. D. Sangster, transportation commissioner Kansas City Commercial Club	282
W. F. Decker, Commercial Club, Minneapolis, Minn	293
W. P. Borland, given leave to submit additional statements	280
L. M. Kennedy, Omaha, given leave to submit additional statements	282
Time granted for submitting additional statements	281

Arguments.

Senator James A. Reed	294
Congressman W. P. Borland	298
Judge W. T. Bland	300

HEARING OF BOARD OF ARMY ENGINEERS ON KANSAS CITY'S APPEAL FROM THE DEAKYNE REPORT.

ASSEMBLY ROOM, COMMERCIAL CLUB, KANSAS CITY, MO.,
October 19, 1915—10 a. m.

Present: Col. William M. Black, Corps of Engineers, chairman; Col. F. V. Abbot, Col. John Biddle, Col. Henry C. Newcomer, Col. Harry Taylor, Lieut. Col. E. Eveleth Winslow, and Lieut. Col. C. A. F. Flagler, Corps of Engineers; A. H. Weber, secretary.

Chairman BLACK. The meeting will please come to order.

The present proceeding results from the following extract from the act of Congress of March 4, 1915. The river and harbor act approved March 4, 1915, by section 14, provides:

"SEC. 14. That the following projects now under improvement shall be reexamined, in accordance with the law for the original examination of rivers and harbors, with a view to obtaining reports whether the adopted projects shall be modified or the improvement abandoned."

Among the projects referred to is the Missouri River, Mo., mouth to Kansas City.

In accordance with the method of procedure, the district officer was called upon to submit a report as to his opinion of the value of this improvement to the United Sttaes. The report having been unfavorable, in accordance also with the regular method of procedure, a notice was sent to all parties known to be interested of this unfavorable report with a concrete statement of the causes, and a public hearing having been requested, the following notice was sent out:

"UNITED STATES ENGINEER OFFICE,
"*Postal Telegraph Building, Kansas City, Mo., September 17, 1915.*

"*Notice of hearing.*—A public hearing will be held by the Board of Engineers for Rivers and Harbors at 10 o'clock a. m. Tuesday, October 19, 1915, at the assembly room of the Commercial Club, Eighth and Central Streets, Kansas City, Mo., for the consideration of the question of modifying or abandoning the project for the improvement of the Missouri River from Kansas City to the mouth.

"All interested parties are invited to be present and express their views. While oral statements will be given due consideration, it is desirable that all important facts and statistics should be submitted in writing, in order that they may form a part of the permanent records of the board.

"HERBERT DEAKYNE,
"*Lieutenant Colonel, Corps of Engineers.*"

The notice of this hearing was sent to everyone supposed to be interested, as far as they could be ascertained. A list[1] of the people to whom notice was sent is here and can be examined by anybody who may desire.

This is an important hearing, and a great deal of testimony will be submitted, and I purpose first to ask Congressman Borland to take charge of presenting the side of the case he represents, and I will ask him to call upon such persons as he pleases, one after another, until he shall conclude all he wishes to present, and then opportunity will be given to others to present their views.

Congressman BORLAND. Col. Black and members of the board, we are certainly very much delighted that you gentlemen have decided to come here in person and hear these commercial interests of the Missouri Valley. We feel that by your coming here in person and reviewing the work and hearing the testimony on the ground a very much clearer and broader view can be taken of the situation than by a hearing in Washington.

We purpose in this hearing to present not arguments but a succession of facts and figures by witnesses who are familiar with the particular line of testimony that they intend to give.

You will recall, of course, that this project was adopted in the river and harbor act of July 25, 1912. Preceding that there had been agitation of about five years' duration in the Missouri Valley for the restoration of commerce on the Missouri River, and the improvement of the Missouri for navigaton. That resulted in the report of District Officer Capt. Edward H. Schulz, Corps of

[1] Not printed.

Engineers, of Kansas City, outlining a plan of improvement substantially as afterwards adopted. In the Congress of 1910 that plan was not adopted as an improvement plan, although the first appropriation for permanent improvement of $1,000,000 was made by that Congress. But in that appropriation provision was inserted that a special board of engineers should come to Kansas City and reexamine the project for improvement of the Missouri River. That board came, and made its report in November, 1910.

Following that report, Chairman Alexander, of the Rivers and Harbors Committee of the House of Representatives, came and reexamined the river, and thereafter reported a bill, which became a law, with the approval of the President.

Proceedings have been going on, improvements have been going on under that act of 1912 for approximately three years. Up to March 4 of this year only three and one-half million dollars had been spent upon the permanent improvement of the bank, but that has not all been permanent improvement; some was in assembling plans and some in maintenance that was charged to that account. The total expenditure has been $6,250,000, of which all since October, 1914, has been used during the construction season; they were not used up to the construction season of 1915.

We were somewhat startled when the report was sent in by the district officer, recommending that this project be abandoned, and we were further startled by the fact that he based that report upon the commerce of the river in 1913. We intend to show that since 1913 there has been a very substantial and satisfactory increase of commerce on the Missouri River, not only in the quantity of the commerce but in the character of the commerce.

It seems that the improvement of the river was begun practically through an understanding between the commercial interest of the Missouri Valley and the committee of the House of Representatives that the commercial interests here should restore navigation in a substantial and successful way; that they were to establish a boat line on the Missouri River between Kansas City and St. Louis, and that has been done and has been operated successfully on a partially improved river, which had not reached the point where successful operation could be carried on from a commercial standpoint. But the improvement in commerce on that boat line, which is the main feature of the river navigation to-day, has been very rapid and satisfactory until they have now reached the point where they are seeking business entirely on the service they are enabled to give and the rates they are able to make. Their rates are 80 per cent of the railroad rates and their service now is approximately very close to rail service. And we intend to show that the growth of this service, begun in 1913, with a very poor channel, and absurdly poor channel in 1914, on account of the existing low water in that year, has grown steadily better until 1915, until the merchants and shippers in this locality, realizing the improvement in service, have begun to give more and more freight to the boat line.

We have prepared here, at the instance of the Commercial Club of Kansas City, a brief, giving a great many facts and figures which we will not be able to give in the oral testimony. In the concluding portion of that brief you will observe a large number of statements of shippers, men whose commercial standing and whose rank in the business world is easily ascertainable, who give their own experience and statement as to what commerce can be diverted to the Missouri River on an improved channel and a satisfactory service.

Now we purpose, in the first place, to show the growth of commerce in relation to the growth of the improvement of the river, and to show you that the growth of commerce has far exceeded the rate at which the river was improved by the Federal Government. Then we purpose to show that the bulk of commerce, the commercial production, and shipping in this territory, is greater than it was when Congress adopted the project of improving the river on the figures of 1907.

We purpose to show that the commerce in this section has greatly exceeded the production of 1907, and that the commerce now is greatly in excess of what it was when Congress adopted the project.

We purpose to show that there has not been a single element in the commercial situation that does not show that the improvement of the river is necessary. On the contrary, the restriction on the facilities of the railroads, and their inability now to meet the present commercial needs of the valley, and the recent opening of the Panama Canal, all contribute to the further and very urgent necessity for the improvement of the river.

We intend to show that the Panama Canal will reduce rates from the Atlantic seaboard to the Pacific seaboard and the west coast of South America, and ocean rates, and that reduction will extend back to the Alleghenies, and the Missouri Valley will be at a commercial disadvantage unless it has rates connecting it with seaboard and the Panama Canal. All of the changes since Congress adopted the project have been in the line of the greater importance of improving the river.

We intend also to show the growth of production between here and St. Louis, the growth of the valley, and the solving of all the incidental problems necessary to navigation, one of which is terminal facilities at intermediate points; another is a fleet of boats adaptable to the river, and another is the adjustment of business conditions among shippers in this territory and their eastern connections so that they may use the river. Another is that legislation recently made by Congress as an amendment to the interstate commerce law, compelling railroad carriers to interchange business with water carriers, and thereby give shippers the right to route their shipments partly by water if they desire. Another is the restriction on railroads, if they reduce their rates in competition with water carriers, not to raise them unless some other condition intervenes besides the elimination of the water competition. And we intend to show that all of these things, the legislation which indicates the policy of Congress to restore inland water navigation, the opening of the Panama Canal, the enlargement of the water system of the Chicago drainage canal and the Illinois River, and the other things referred to, have all been in favor of the commercial importance of the Missouri River rather than against it.

Inasmuch as there are a great many witnesses here to be heard, we are going to have these witnesses speak concisely and to the point. This morning I purpose to have first the men who have been instrumental in organizing the boat line tell this board as to the history of the boat line and of the problems to be solved. Then I intend to call the men familiar, as experts, with the traffic situation in the Missouri Valley and who know what the question of adjustment of rates as to water traffic means, and what the elimination of water traffic would mean in the adjustment of freight rates. Then this afternoon we intend to have come before you actual shippers in Kansas City, showing the volume of their business and the percentage of it they could move by water, and the amount that will move by water as rapidly as the channel is put in a satisfactory condition. The first witness I am going to call will be the gentleman who is chairman of the river improvement committee of the Commercial Club, who had a great deal to do with the organization of the committees that went to Washington and discussed this matter with the Rivers and Harbors Committee, and who is thoroughly familiar with the proceedings that led up to the congressional legislation adopting the project. That is Judge W. T. Bland, of the McPike Drug Co., of Kansas City

Mr. MACKIE. Mr. Bland is not present just now.

Congressman BORLAND. Then I will ask Mr. W. S. Dickey to address the board. Mr. Dickey, I would like to have you take the stand.

Senator REED. I want to inquire of the board what is their desire with reference to the method of proceeding. There are a number of Congressmen here representing, broadly speaking, the State, the interests of the State at large. While I am a resident of Kansas City, I feel it incumbent on me, in a manner, to speak on this matter for the general interests of the State. Now, it is utterly immaterial to me, and I presume it is somewhat immaterial with these Congressmen here, just who you hear first, but I think perhaps the board should make a statement.

Chairman BLACK. Senator, we have thought you gentlemen had prepared a presentation before this board, and that therefore Congressman Borland, as your direct representative, would be best able to state the order in which this presentation should be given, and therefore we have left the matter to Congressman Borland as the representative of the interests he favors. It is immaterial to us in what order they are presented as long as they are presented in logical order, so that we can get hold of the facts more easily. But we wish to have this presentation made by those interested in the river in any manner they think most impressive for their side.

Senator REED. Then it can not be misunderstood that Congressman Borland shall present whatever he desires to present, and that the Commercial Club shall present whatever it desires; but I apprehend that there are other parts

of the State and other interests that should be heard. Now, if the board says to me that it does not care to hear from the other parts of the State——

Congressman BORLAND (interrupting). The Senator has just come in, and I might say for his information that there are a number of gentlemen here from other points in the State, and from other points than Missouri, in the Missouri and Mississippi Valleys, and arrangements have been made that they all be heard; and Senator Reed will be heard.

Senator REED. Who made the arrangements?

Congressman BORLAND. The Commercial Club committee and others who were in consultation yesterday.

Senator REED. I certainly can not have any controversy about this matter. I take it that this board of engineers wants to hear everybody, and I do not know who is constituted to speak for everybody; I suppose nobody. I simply want to have an understanding as to when the outside portions of the State and the delegations that are here may be heard and when the Congressmen who are here from other parts of the State may be heard; that is all.

Chairman BLACK. If you will just arrange that with Congressman Borland it will be all right.

Senator REED. I do not understand I will have to arrange it with Congressman Borland; I am trying to arrange it with the board.

Chairman BLACK. The board is desirous of hearing everything to be presented.

Senator REED. We would like to have it arranged beforehand, so that there may be no misunderstanding. I am certainly desirous that Congressman Borland should present everything he desires in connection with the case, but I want to know if there will be an opportunity for the outside portions of the State to be heard?

Chairman BLACK. You can be assured of that, Senator; the hearing will not be adjourned until you gentlemen have had full chance to say all you wish.

Congressman BORLAND. I may say, Colonel, that my being here in charge of these proceedings is at the request of the Commercial Club, and they have invited all possible interests to be here. Many of them were here yesterday and participated in the preliminary arrangements and in this program, and they will all be here. We are more than anxious that all of those interested in the continuation of the present project of the improvement of the Missouri River will have a chance to present their view.

Chairman BLACK. I take it you are also interested in having a united front presented?

Congressman BORLAND. There is no question about that.

Chairman BLACK. So that nothing like a controversy may arise.

Congressman BORLAND. Certainly.

Senator REED. I must not be misunderstood. There is no controversy and can not be any controversy or clash. I simply wanted to understand what was to be heard this morning—whether it was the presentation of certain people who are interested, and that others were to be heard later.

Chairman BLACK. I am sorry you were not here when that was announced.

Senator REED. The Commercial Club is a great body and has been active in the matter and ought to be heard, and Congressman Borland ought to be heard, and all these people ought to be heard, and there are some gentlemen who have come from a distance, and they ought to be heard, and the parties out in the State ought to be heard.

Chairman BLACK. All of you will be heard.

Congressman BORLAND. I want to say, for the purposes of the record, that this hearing is not limited to the Commercial Club. It so chances that they are acting as hosts to a great many people they have invited, and they have made the preliminary arrangements, but it is far from being limited to the Commercial Club of Kansas City. Every interest that could be reached has been reached, and all have been invited to take part in this presentation.

Mr. BLAND. I have been selected as chairman of the river improvement committee of the Commercial Club and, in fact, have been for several years chairman, and also chairman of the particular committee which was selected to conduct this, or present the side of the Commercial Club of Kansas City, not only at this particular hearing but at an early convention to be held in Kansas City of the greater Mississippi River Valley. I take it that if there is any question between members of Congress as to priority that priority would naturally lie with the United States Senator as against a Congressman.

Chairman BLACK. As is usual.

Mr. BLAND. There are other Congressmen from the State here, and I take it it is not probably a question of that character. Senator Reed is a member of the Commerce Committee of the Senate and has been always an ardent supporter of the river, and we have always called on him to help us, and he has never failed to respond, and I am sure we all appreciate how valuable his assistance is, not only as an officer of the United States Government but also as a citizen of Kansas City. He is a lawyer of marked ability, and he understands this situation thoroughly, and we are delighted to have Senator Reed here to-day, as well as Mr. Borland and the other gentlemen who are Members of Congress from Missouri, to assist us in the presentation of this matter, and it will be entirely satisfactory to the commercial interests for the board to proceed in such order as it may see fit. If it is not satisfactory to Senator Reed to proceed with the order of calling the witnesses contemplated, or if the board has any other wish in the matter, the commercial interests would most readily yield to any order the board might make.

Senator REED. There is no question of priorities. I have not undertaken to raise it, and I would not raise it if it had been suggested. There is nothing of that kind. I simply wanted to know whether there was going to be an opportunity, after Mr. Borland had gotten through with the presentation of what he wants to present, for others to be heard.

Chairman BLACK. You may be assured of that, sir.

Senator REED. And something that was said, I do not now recall what it was, led me to the conclusion that at least some people had a great many things on their program. I do not want it to be understood that there is an arrangement that precludes others. Now, here is the mayor of the city and others. I am glad the Commercial Club's president, Mr. Bland, says he is glad to have our cooperation, and I am very glad to have the cooperation of the Commercial Club. This is a sort of free-for-all, as I understand it, and there have been some gentlemen consulted, and they have agreed that Mr. Borland is to go ahead with that, and I am agreeable to that, and I just wanted one matter understood, as to the right of others to be heard if they desire.

Chairman BLACK. There is no question about that at all, Senator.

Congressman BORLAND. We can assure the Senator of that.

Senator REED. I feel, Mr. Borland, that I have the assurance of the board to that effect.

Congressman BORLAND. Now, Mr. Dickey, will you be heard at this time?

WALTER S. DICKEY, called as a witness, testified as follows:

Congressman BORLAND. Will you state your name, please?

Mr. DICKEY. Walter S. Dickey.

Congressman BORLAND. I believe you are president of the Kansas City Missouri River Navigation Co.?

Mr. DICKEY. I am.

Congressman BORLAND. Without any further questions, I will just ask you to detail very briefly and concisely the history of your company and its relation to the restoration of commerce on the Missouri River.

Mr. DICKEY. Mr. President and members of the board, the Kansas City Missouri River Navigation Co. is an organization composed of forty-two hundred, roughly speaking, citizens and business men in this immediate vicinity, most of them of Kansas Cty, Mo., as shareholders, and the capital stock is $1,202,000, something over $1,000,000 of which has been paid up in cash. This company was formed for the purpose—the sole purpose—of engaging in traffic upon the Missouri River, and it is, of course, deeply concerned in this question of the improvement of the river.

The people of Kansas City, on various occasions in recent years, have undertaken to establish a line of boats on this river, the present effort being, in my recollection in the last 31 years, and a few years immediately preceding that, the fourth effort in which the business men located at this point and in this immediate neighborhood, have undertaken to raise capital and put boats upon the river for freighting purposes. The first was a barge line principally used for grain; the second, an effort locally known here as the Mason Line, an incorporated company with a very considerable paid-up capital, which engaged in freighting on the river by the use of three packet boats, which were built for the purpose, wooden-hull boats; a third, still another effort, largely put forth through the officers and members of the Kansas City Commercial Club,

locally referred to as the Jones Line, which carried on business on the river for two or three seasons. The last effort is the one I have just referred to, the Kansas City-Missouri River Navigation Co., an incorporated company with $1,202,000 capital, something over $1,000,000 of which has been paid up in cash since 1910.

Being in a business myself, the manufacturer of a bulky commodity, the delivery cost of which is largely affected by freights, this question has appealed to me as a shipper, and while my commodity is not one that usually moves by boat, being more or less fragile and bulky—burnt-clay products—nevertheless, as a student of transportation problems and active in this community and well acquainted with the commercial interests and necessities of Kansas City, my fellow townsmen called upon me in 1909, through a committee, and asked if I would take the leadership in a movement to form, organize, and put on foot a navigation company to build modern boats and ply this river; and so that movement started in the spring of 1909.

The Missouri Valley has never at any time given up its hope in this river and in using it for freighting purposes. With the ebb and flow of public opinion and the inclination of the Federal Congress to develop these great inland waterways, the Missouri Valley people have never at any time lost faith in their belief that the river was here for that purpose and should and would be used as an important freight carrier.

The enormous amount of possible tonnage that can be moved by water on this stream, through this entire western country, goes without saying, and still in addressing a body of men such as you gentlemen are, skilled in your profession, but removed, perhaps, from the channel of daily trade and not brought daily face to face with its conditions like we merchants, manufacturers, dealers, and jobbers, we would like, if we could for a moment, to ask you to forget temporarily, at least during a part of this hearing, your special profession and look upon this question not only as engineers but as citizens and as men interested in the development of this great interior country.

It takes somewhat of an optimist and an enthusiast to see and reach out and in the mind to feel the hopes and aspirations of the men who have put their money into this Kansas City-Missouri River Navigation Co. and the hope that it would not only benefit this immediate community but would benefit this entire western country and be a direct and specific benefit to all of the people of the United States.

The people of this city and of this business center have been active and energetic in their advocacy of a broader policy by Congress toward the improvement of these great inland waterways. This Kansas City Commercial Club has been foremost in that direction. For many years it has sent, without a skip and without ever hesitating or failing, a delegation to every kind of a convention or conference and to the National Rivers and Harbors Conference held annually in Washington, these being delegations of men engaged in business here who purposed to use the river, if it could be used, and who did use it when it was possible to do so in the actual movement of merchandise. We did it believing that this was simply one of the factors in the great transportation problems. We realize here, as I think every man in this room does, the enormous importance of the whole question of transporting things from where they are produced to where they are consumed, as evidenced by the great concerns, public and private, engaged in such enterprise. It is the greatest single item in the cost of existence, this question of transportation, and we who remember the congested condition in 1906 and 1907, when, in this western country, the rail carriers were totally unable to handle the freight offered to them, fear that that same condition will come again, and we are anxious that this avenue of commerce shall be used, and any others that may be developed to augment the rail carriers; the hard-surface wagon roads, the use of the river, the enlargement, expansion, and double-tracking and increased facilities of the rail carriers, and in every way possible to enlarge and expand the transportation facilities of this country; because it is only a question of time, and we who have been merchandising here for a number of years know it is only a question of time, until we will be congested again and until the available means of transportation will break down under the load. And hence our deep concern and anxiety about the development and use of this river.

Congressman BORLAND. Will you give to the board some facts in regard to the growth of commerce on your line?

Mr. DICKEY. I am coming to that right now.

Congressman BORLAND. I call your attention to page 23 of the brief. I do not know whether you have it there. I want to call attention particularly to the fact that the *Chester* was put on in 1911, and now we are almost to the close of the season of 1915, and Col. Deakyne's report refers to the tonnage of 1913. I would like to have you briefly analyze that situation and show the reasons for the growth of your boat line in that time.

Mr. DICKEY. After the formation of this boat line, as suggested just now, our first effort to move freight under the present company was with the steamer *Chester* in 1911. In that year we moved a comparatively small amount of freight. In 1913 it had increased to, in round numbers, 10,000 tons; in 1914 it had increased to 14,000 tons; and in 1915 it will exceed 30,000 tons, 27,306 tons having actually been moved by this company by water up to October 1, 1915, in this year.

This company has 1 packet, 2 twoboats, and 12 barges, all of which have steel hulls and are designed to avoid the dangers of snagging.

Congressman BORLAND. Was it necessary for you to develop this type of boat for use on this particular line—these steel barges and towboats?

Mr. DICKEY. We simply endeavored to take a step forward and get away from the old style of wooden-hull construction, to avoid the fate of the 103 wooden-hull wrecks which have been definitely located in the Missouri River by Government reports. We, therefore, took up the question of the use of steel hulls, and that is the only type of vessel that we have built or bought.

Congressman BORLAND. Your fleet consists now of steel-hulled barges that are safe from snags?

Mr. DICKEY. Reasonably safe from snags.

Congressman BORLAD. And they are operated by towboats?

Mr. DICKEY. Yes.

Congressman BORLAND. The old style of boat was what was known as the Texas-deck boat, such as the *Chester* before it was rebuilt?

Mr. DICKEY. Yes; it was the old style we are mostly familiar with; of wooden construction.

Congressman BORLAND. What efforts did the company put forth, do you know, and what money did it expend for the new type of river boats?

Mr. DICKEY. We used a good many thousand dollars of our capital in trying to determine what type of boat and power we should use to get the best results and to operate in the Missouri River, which in its unimproved condition was more or less of a hazardous undertaking. In that way we developed and determined to use the steel hull, and we tried the different methods of propulsion, both by screw and stern wheel, and we considered the question of the side wheel. We investigated and experimented some with the method of making and applying power, of making steam with other than coal, which had been used for many years, and prior to that by wood, which was used in the early days. So we are developing our power with fuel oil and using steam engines.

Congressman BORLAND. What condition did you find the terminal facilities in when you took hold of the restoration of commerce on the river?

Mr. DICKEY. There were no terminal facilities that we could find, and that was one of the early questions that came before us, resulting in agitation which you all remember, or at least the local men remember, that caused Kansas City, Mo., in 1911, I think it was, to vote $75,000 of bonds, the proceeds of which were to give Kansas City a municipal terminal joining the rail and the river, and that money, or the bulk of it, was expended, Mr. President, in building a small-sized, reasonably modern terminal at our water front here, giving connection with rail and river and a landing for boats of all kinds, whoever operated by.

Congressman BORLAND. Have you terminals at East St. Louis?

Mr. DICKEY. This terminal at Kansas City was followed immediately by the building of a warehouse, with a reasonable amount of terminal and track facilities, in East St. Louis, which was built with the capital of this company. We had no assistance from the municipality there. Out of the funds of this company we built and maintained on leased land at East St. Louis a warehouse with power loading and unloading facilities and with trackage facilities into and out of the warehouse. That absorbed a part of our capital.

Congressman BORLAND. I am going to ask you, Mr. Dickey, in conclusion, what has been the experience of the boat line in the last three seasons in regard to its growth of patronage and its hold upon the shipping public?

Mr. DICKEY. The growth of the business has simply been limited to the conditions in which we found the river and the limited amount of floating equip-

ment that we had or could get. We were endeavoring to carry out our promise to the Chief of Engineers, Gen. Marshall, and his successor, Gen. Bixby, and to the committees of the House and Senate with whom we conferred at different times, that we would and could use the river. We were of the opinion that the use of the river would encourage appropriations by the Federal Government and were proceeding to use it even at great loss and at some hazard and with a great deal of difficulty in low-water season.

Congressman BORLAND. Now, Mr. Dickey, if you will permit me, I want to call Mr. Poland and ask him a few questions.

Mr. DICKEY. I would like to augment what I have said, but not at any great length.

Congressman BORLAND. Very well.

Mr. DICKEY. There happens to be, gentlemen, in this Missouri River Valley, in the stretch over which our company operates between here and St. Louis, or between here and the mouth of the river, 390 miles, all kinds of available bulky, raw material, very little of which has so far been moved by water. The bluffs and lands adjacent to the Missouri River between Kansas City and the mouth of the river contain vast quantities of coal, fire clays, cement rock, and silica sand. You gentlemen remember that at Klondike and at other points down the river, as you approached the mouth, there are great white hills sticking out through the water, which are composed of pure white silica sand, available for glass making and other purposes. In the upper reaches of this stretch of the river there is coal on both sides of the river, none of which has to any commercial extent been shipped by water. Both sides of the river contain deposits of clays suitable for paving-brick manufacture and for clay-working mills of all kinds, and cement rock available for the manufacture of cement, to say nothing of agricultural products. And those raw materials, and the possibility of their being manufactured into articles of commerce would, in my opinion, being interested in that business, knowing something about it and having lived here 31 years, form a nucleus for freight to support such a line as we have. There would be enough tonnage from this raw material and from those few bulky commodities I have mentioned to make it a commercial success to move that stuff by water; if the river was improved and the channel certain and regular, continuing service could be given. There is no question as to the amount of patronage we could get; there is no question as to the amount of possible tonnage being sufficient to support not only a fleet of 15 vessels, but three times that many, did we but once have these banks fixed so that in behind them the owners of the land could build levees and develop their properties. There would be freight enough to support many boats.

There is one statement which is peculiarly terse and pointed, which I think will come to you later and be more elaborated on, which makes an impression on me, and I think will on this board. There are, roughly speaking, 500,000 acres of first and second bottom land along the Missouri River between here and its mouth, all of which would yield a ton per acre per annum, available for freight on this river, or 500,000 tons per annum, were the banks of the river fixed and revetted and the lands leveed so that they could be used.

I omitted to refer to one other raw material of a bulky nature which would furnish a great amount of freight for the boat line, and that is the possibility of the shipment of iron ore.

I think, gentlemen, that is all I would like to say for the present.

Congressman BORLAND. Mr. Dickey, I believe I will put Mr. Mackie on now.

Col. NEWCOMER. Was I correct in understanding you to say that the business of the navigation company is still being conducted at a loss, with the increasing tonnage?

Mr. DICKEY. It is being conducted, everything considered, at a loss. When you take the overhead into consideration with a line doing a limited amount of business, increasing, as I have said, from year to year, to about 30,000 tons this year. This year, I think, we would have been practically out of the red, had it not been that we had the misfortune to lose a barge down at the terminal at East St. Louis which had some freight on it. But outside of that mishap, this year, with a fair stage of water, and the continuing improvement in the channel caused by the work the Government has been doing, because every fixed bend helps, we have been able to operate without a loss, with the exception of this misfortune in losing this barge, which settled on piling and became leaky and sank, and that made a loss which will put us in the red again this year. Prior to that we operated at a loss each year.

Have any of the members of the board any further questions to ask?

Col. TAYLOR. Do you include interest on capital in that overhead?

Mr. DICKEY. No, we do not; but do include fixed expenses and terminal charges at each end in receiving and unloading freight, and we issue bills of lading and make rates 20 per cent less than the rail rates. We haul freight of all kinds for all people everywhere at one-fifth less than the rail rate, whatever that may be, and we give track and warehouse delivery both at Kansas City and St. Louis. In other words, if you are a shipper at St. Louis removed from the river, we sidetrack to your place of business and we absorb the cost of switching within certain restricted limits, and also from your place of business to the water front, and load it there and take it to Kansas City and do the same thing here, putting it in the car and switching it to dock or warehouse. In addition to that we cut the rail rate 20 per cent, so when you ask about the overhead expense, I have to mention that. Then, there is the cost of docking fees here and a small fee at East St. Louis, and the delivery of the freight; that is all included in the overhead, but in no sense is any interest on the investment included.

Senator REED. Mr. Dickey, in order to get one or two questions in a condensed form—in order to get one or two facts in a condensed form—will you state now how many boats the company has at the present time on the river, and how many barges it has, and what their capacity is? If you have a statement of that you might file it with the board.

Mr. DICKEY. I will file such a statement, Senator, but I have stated that we have 15 steel-hull craft, 1 packet boat, 1 passenger boat and freight boat combined, 2 towboats, and 12 barges of steel-hull construction, and the figures giving the actual capacity of each I will file with the board.

Senator REED. What was the aggregate tonnage you have carried this year?

Mr. DICKEY. Up to October 1, it was 27,306 tons; up to this date, in round numbers, about 30,000 tons.

Senator REED. How much longer will navigation continue, probably?

Mr. DICKEY. The 15th of November is the time we expect to close. Last year we ran a little later than that, up until the first week in December with one vessel.

Senator REED. What is the fair, reasonable estimate of the total tonnage of this year?

Mr. DICKEY. From 30,000 to 32,000 tons.

Senator REED. Have you been able to handle all of the freight offered?

Mr. DICKEY. No, sir; at no time this year, either upstream or downstream, have we been able to undertake to carry the freight that was offered.

Senator REED. You have spoken of carrying freight at a loss. If the river had a 6-foot channel from Kansas City to the mouth, so that you could proceed unobstructedly, what then would be the conditions with reference to operating at a profit or at a loss, as to carrying freight at a loss?

Mr. DICKEY. I did not speak about carrying freight at a loss, Senator. It is a fact, however, that at the close of each year, counting our overhead expenses, etc., there has been a loss.

Senator REED. Let me put it this way, so that we will not have any possible misunderstanding in the record which goes to Congress ultimately for action, possibly. You spoke of operating the line at a loss, including in the operating expenses the overhead charges. You have so operated your line upon the river with the improvements only partially made?

Mr. DICKEY. Only started as yet.

Senator REED. If there was a 6-foot channel, such as contemplated by the bill, so that you could operate your boats steadily, what then would be the condition of your company with reference to operating at a profit or loss?

Mr. DICKEY. There would be absolutely no question in my mind as to the venture being not only profitable, but helpful to this entire Middle West country. The boats would operate at a profit, and I state, as a business man and a student of these conditions for all these years, that we would operate at a profit; that if we had anything like a stable channel, or 6-foot channel, and could give fixed delivery at stated times, we would be swamped with merchandise and could not carry it all, and would operate at a profit.

Senator REED. Is it or is it not a fact that the river transportation had reached so low an ebb in years past that when you took hold of this project you found that wharves were necessary?

Mr. DICKEY. There were none, Senator, anywhere.

Senator REED. Has that been a serious handicap?

Mr. DICKEY. The lack of terminal facilities has been a daily expense and a great source of additional cost.

Senator REED. State to the board what, if anything, has been done in the way of making wharves and terminals?

Mr. DICKEY. Well, as I have already briefly outlined, the city here has built a municipal terminal at Kansas City of moderate size; and this company had to build one at East St. Louis. There is nothing in the way of a terminal between here and St. Louis except the bank where the local boats and other boats attempt to land.

Senator REED. If these terminals were built at the various points of loading and unloading, not only at the terminals, but along the line, what effect would that have with reference to the cost of transporting goods and the volume of goods you would receive?

Mr. DICKEY. It would lessen the cost very materially. We keep an accurate tabulation, showing what the handling of merchandise costs, and when we have any sort of reasonable facilities we can cut the cost in two of loading and unloading vessels and barges.

Senator REED. What, in your opinion—based upon your experience in operating this line—will result at the intermediate points, as well as at the terminals, with reference to docking facilities if the river is improved?

Mr. DICKEY. Just as soon as it is definitely known that this work is permanent and is continuously being done, there will be a terminus of some kind—an exchange place between river and rail—at every important landing between here and St. Louis. That question has already been up; many towns have held meetings about it and if we had the facilities now, even with the limited water and the troublesome condition of the channel, some of those towns would build and operate a terminal or make a start on a terminal.

Senator REED. I want to take up another matter, in the briefest possible way, which has already been touched upon. You have stated that you started with the old type of steamer and that you have now adopted steel barges—a different type of boat. Has that experimental stage been a matter of expense?

Mr. DICKEY. The first experiment made with an old stern-wheel steamer, which we fell heir to and did not have to purchase, the converting of it from a stern-wheel boat to a screw-propelled boat was an expensive investment that cost us some money. But that same type of vessel, when properly designed and built, as is our towboat *Scott*, has proved a thing of beauty and a joy forever, and saves us money every day.

Senator REED. I want to bring out the question of whether you have been obliged to experiment with boats in order to get the best type and whether you feel you have made progress in that matter; and if so, to what extent?

Mr. DICKEY. We certainly did experiment, certainly have benefited by it, and certainly have made progress. We have now a comparison by days, months, per annum, and per ton-mile between the stern-wheel propelled boat and the screw-propelled boat moving freight, and we would be glad to file a statement with this board.

Chairman BLACK. We would be glad to have you do so.

Senator REED. Did you have difficulty at first, and for a long time because the river was imperfectly lighted—because there were insufficient lights by which you could navigate the stream?

Mr. DICKEY. We did have a very great deal of trouble on account of the lack of lights and day signals, but that has been, in a measure, removed because in the last two or three years the river has had lights and day marks put upon it that have helped considerably.

Senator REED. That was one of the obstacles?

Mr. DICKEY. Yes, sir; and the snags in the river; but the greatest difficulty of all is the separating of the water into numerous channels and not being confined into one body—so that it is difficult to tell where the best water is—so that we lose time.

Senator REED. But the absence of lights has been one of your difficulties?

Mr. DICKEY. Yes.

Senator REED. Has it been your experience that just in proportion as these difficulties of various kinds have been removed you have been better able to navigate the river and do so at less cost?

Mr. DICKEY. The records of the company, and the supervision we keep over that, show that just as plainly as can be. Each year and each month in the year we keep doing a little better as the river is improved and the bad bends attended to. As we get further into the work we are improving the

service, and have now gotten down to trips from St. Louis to Kansas City, upstream, in 80 hours, and round trips in 5 days with regularity.

Senator REED. Have you any doubt now—I ask you as an expert from your experience to state to the board—whatever that if this river improvement is carried on, as provided in the act of Congress, that the river can be navigated at a profit?

Mr. DICKEY. I have no doubt of that whatever.

Senator REED. And at rates 20 per cent below the present railroad rates?

Mr. DICKEY. I have no doubt of it whatever; and I think still further reductions in rates would still be profitable—considerable further reductions.

Senator REED. If your rates are thus still further reduced, what, in your opinion, will be the volume of freight that can be carried when the improvement is completed?

Chairman BLACK. Can be or will be?

Senator REED. I will say, will be carried when the improvement is completed.

Mr. DICKEY. I can not state that as an expert, because I am a business man devoting my time to this for the community; but I think if we had a 6-foot channel and could operate eight or nine months in the year on the river, with the disposition of the people in this district to use the river, the volume of freight tendered and carried would be enormous. It is estimated that the river would be the equivalent in carrying capacity of 100 double-track lines of railroad.

Chairman BLACK. You have brought out some information we wanted to get very much, and I would be very glad to have Mr. Dickey furnish us with the information that he said he had in his office as to cost, the progressively decreasing cost of operation with the increasing tonnage and improvement of the river.

Mr. DICKEY. I shall be glad to file that statement with you.

Chairman BLACK. Furthermore, we would like to have definite information given us concerning the relative cost of movement by screw-propelled and stern-wheel-propelled boats.

Mr. DICKEY. We have that and can give it to you. I will state in general, as a forerunner of what we will file with you, that there is apparently very little difference in the per ton-mile cost of freight moving in screw-propelled and stern-wheel boats. There is some little advantage in speed one way and some little advantage in tonnage another way.

Senator REED. And some saving in labor by reason of the application of fuel oil instead of coal—an enormous saving in that respect, and saving in time? You have stated that?

Mr. DICKEY. Yes; and I have the figures on that.

Senator REED. There were one or two more questions I wanted to ask.

Congressman BORLAND. We have a witness here who keeps the books of the company, of whom I had designed to ask these very questions—the secretary of the company.

Mr. DICKEY. I think it would be fair to state that our secretary, who devotes his entire time to those matters, is here to testify in regard to that.

Congressman BORLAND. So that these questions may not be duplicated.

Senator REED. I do not intend to go into that and have not done so. I wanted to ask Mr. Dickey another question suggested by Judge Bland. If the river were improved as contemplated in this act of Congress, what then would be the situation with reference to the kind of service you could give between Kansas City and St. Louis?

Mr. DICKEY. There would be no question about the improvement of the service and its continuous regularity. We could move freight from Kansas City to St. Louis regularly and continuously 8 and possibly 8½ or 9 months in the year, in 72 hours upstream, and make the round trip regularly in 5 days.

Senator REED. Would that be partly because you could then run at night, which you can not do now?

Mr. DICKEY. That would be partly because of the opportunity to operate all night, and we now only operate part of the night in certain stretches of the river which have been improved. We can not operate at all at night upstream, and of course not downstream in stretches of the river that have not been improved.

Chairman BLACK. Can you state to the board the number of hours actually taken in the delivery of freight between St. Louis and Kansas City by rail at the present time?

Mr. DICKEY. I could not answer that except as a purchaser of commodities and as an occasional receiver of rail freight—not very much of it, because I am not a jobber but a manufacturer. But other witnesses here can tell you just how long it takes to bring freight from St. Louis to Kansas City regularly.

Chairman BLACK. I would like to have that definitely stated.

Col. WINSLOW. You stated that November 15 is the average end of the season. What is the beginning of the season?

Mr. DICKEY. We will give the actual records of that when our secretary, Mr. Mackie, comes before the board, but it is the end of February or early in March; but last year we ran up until December and got into a little trouble.

Col. BIDDLE. Was that on account of the ice?

Mr. DICKEY. That principally. The ice first interferes with it in the fall and does in the spring—principally in the fall. The first heavy frost in the upper regions of the Missouri River and its tributaries stops the flow of water and our water falls very rapidly.

Col. NEWCOMER. You stated that the stern-wheel boat and the screw-propelled boat carry tonnage for about the same cost?

Mr. DICKEY. Relatively the same; but we will give the figures for one or two years.

Col. NEWCOMER. Are there any figures that show a marked superiority of one type over the other?

Mr. DICKEY. Yes, sir; a very marked superiority of the screw type. Now, as to the tunnel type, the only use of the tunnel is so that the screw will not be so low as to hit the bottom and catch snags; but it is our opinion that properly designed steel hulls with screw propellers in these swift waters of the Missouri, and in these shallow waters, will be the best with the least cost finally, because the boat does not squat and have a tendency to pull the water out from under it with the screw propeller as with the stern wheel; and when we get 4 feet of water with a boat that draws 3½, she labors and the speed slows down. We do not find such a tendency to squat with the screw-propelled boat as with the stern-wheel boat.

Col. TAYLOR. You spoke of having more freight offered than you were able to carry; have you made arrangements to increase your capacity next year?

Mr. DICKEY. We have. We have on our boards at the office now, designed by our architect, who is a graduate of the Naval Artillery School of Berlin, plans for a stern-wheel towboat and a screw-propelled towboat; and the matter has been before our board of directors, and was going to be acted upon when this report which is now being considered by you gentlemen, came up and threw us all in an uproar.

Col. TAYLOR. You have not made the purchase yet?

Mr. DICKEY. We have not made the purchase of that boat, but are up to it.

Col. TAYLOR. Have you made arrangements for additional barges?

Mr. DICKEY. We did this year put on four additional small barges that have been a help in securing freight.

Col. TAYLOR. You do not expect to put on any others next year?

Mr. DICKEY. No; we will not put on any other barges next year, because we have barge capacity enough for next year. What we need now is an increase of our towing capacity.

Col. WINSLOW. You mentioned the large number of stockholders in your company?

Mr. DICKEY. Yes, sir.

Col. WINSLOW. Are they scattered among merchants and others?

Mr. DICKEY. We have over 4,200 shareholders, principally in Kansas City, Mo., and in Kansas City, Kans., bankers, banks themselves, merchants, manufacturers, business men. Many of them are small subscribers in amounts of $1, $5, and $10, many of them are employees, and merchants in a minor way in this locality, and we have many subscribers in small sums in the towns up and down the river. One of the very first subscriptions we received when this question was agitated came in by mail from Lexington for $500; wherever the spirit of Kansas City's business influence was felt and the newspapers circulated. They were of the greatest aid in getting this enterprise under way.

Col. WINSLOW. The interest in the line is quite widespread?

Mr. DICKEY. Very much so; and I am sorry to say that it will never be possible for you gentlemen, in one or two days, no matter what you do, to catch the spirit of the people of this valley in the question of their deep interest in this line and the improvement of that river. You would have to live out here a while and be in this atmosphere and feel the deep concern we

all have in it; it would not be possible for you to gather it in a few days or in a public hearing.

Col. TAYLOR. What proportion of your paid-up capital has been used in the purchase of boats?

Mr. DICKEY. I will ask Mr. Mackie to answer that technically when he comes on, but, as I have said, we have collected over $1,000,000 in cash, besides the interest on the deferred payments; and we have in round numbers about $300,000 either on hand or in freight due us from concerns. Roughly, between $280,000 and $300,000 of that capital is waiting investment until the day when we know what we can best use in the way of facilities and until the day we feel certain that these bad places in the river will be improved and until we feel sure we can get up and down.

Col. TAYLOR. You have used something like $700,000 or $800,000 cash?

Mr. DICKEY. Yes; we have actually expended that much.

Chairman BLACK. We are much obliged to you, Mr. Dickey.

(Witness excused.)

Congressman BORLAND. Mr. Mackie, will you take the stand?

A. W. MACKIE, called as a witness, testified:

Congressman BORLAND. You are the secretary of the Kansas City Missouri River Navigation Co.?

Mr. MACKIE. Yes, sir; I am assistant to Mr. Dickey, as manager.

Congressman BORLAND. How long have you been connected with the company?

Mr. MACKIE. Since the beginning of the organization, in April, 1909.

Congressman BORLAND. Are you familiar with the fleet of boats now on the river, their capacity and draft, and the times at which they were acquired by the company?

Mr. MACKIE. Yes, sir.

Congressman BORLAND. I wish you would detail to the board the fleet now on the river, the draft of the boats, their tonnage capacity, and the time in which you have acquired them.

Mr. MACKIE. In 1910 we fell heir to a Missouri River packet with a steel hull from a former organization which had some obligations it could not pay, and we paid the obligations and took the steamer with the idea of getting the steamer in service in 1911, our delegates who went to Washington having made the statement to Congress and to the Rivers and Harbors Committee of the House that we would have that service on the river in 1911. We did put that one boat in service in 1911. It is a steel-hull packet and passenger boat, not designed for the Missouri River service, of a type more long and narrow—"greyhound," commonly called—which has not the buoyancy or carrying capacity desirable for a shallow-water boat. That boat was originally a stern-wheel, and in our efforts to improve operating costs and carrying costs our engineer prevailed upon us to convert it into a twin-screw tunnel steamer, which was done, and at considerable expense because of the absence of a desirable shipyard.

Mr. DICKEY. First designed as a triple-screw boat.

Mr. MACKIE. First designed as a triple-screw tunnel boat, but which has been used only as a twin-screw since the first trip. That boat was operated in 1911, and a small tonnage was carried in five trips. Our season closed along in October that year because of the low water and the too deep draft of that particular steamer.

Chairman BLACK. What was her draft?

Mr. MACKIE. Her draft light was 3½ feet, and she carried 300 tons on 5½ feet. In 1911 we did not have an average of 5½ feet. As a matter of fact, we did well to carry 100 tons of freight. The low water set in in September.

Congressman BORLAND. The *Chester* was of the old type of boat that had been used on the river?

Mr. MACKIE. Yes, sir.

Congressman BORLAND. A Texas-deck packet boat?

Mr. MACKIE. Yes, sir.

Congressman BORLAND. Where the load was carried on the deck and loaded and unloaded by hand?

Mr. MACKIE. Yes. That was the type of boat that had been used on the Mississippi River, and she was originally built for the Mississippi River.

Congressman BORLAND. Now, the fact of the matter is that that boat was not adapted to such a river and not properly adapted to even an improved river?

Mr. MACKIE. We found it unsatisfactory for the Missouri River in the condition in which we found the river. It could have, and did on a few trips in the following years, show a profit when there was high water, but not sufficient profit to justify the building of any more boats of that kind.

Meanwhile, from the operation of that boat, we determined upon the towboat and barge type as the most suitable type. In a search of inland waters for boats available for purchase and barges available for purchase we wanted, first, steel hulls, of which there were very few. None were found entirely suited for the Missouri River as we then understood the necessities of the river. We were able to purchase and did purchase in the fall of 1911 a twin-screw boat, the *A. M. Scott*, which was designed for shallow water, designed to draw 3 feet, and not a freight carrier, but merely a towboat. We purchased that same season a large steel-hull barge, on which we erected a steel cargo box, and got it to Kansas City with the steamer *Scott* to begin the service in the spring of 1912. In the year 1912 we also purchased two other steamboat hulls, in order to get something on the river quickly, in order to increase our tonnage quickly, and, as our directors felt, to keep our promise with Washington that we would carry tonnage and move freight on the river. The former steamboat hulls purchased for barges, you can probably understand, were not entirely suited to the river. We took what we could get.

We then began designing barges specially suited to the Missouri River and contracted for two 1,000-ton barges. By that I mean 1,000 tons capacity on 6 feet, or approximately 200 tons per foot of immersion, drawing 18 inches light; and we put those in service on the Missouri River with the towboat *Scott*. In 1912 we also purchased a stern-wheel steamer of the ordinary high-pressure type burning coal. That was brought into the river and used to tow one of the small hulls which had been converted into a barge—small steamboat hulls. We soon learned that a small tonnage on the Missouri River, operating conditions as they were then, with the strong current and the long drive from St. Louis uphill—that small tonnage would not pay. We were fortunate in being able to increase the power of that stern-wheel towboat from 137 horsepower to 620 horsepower and still maintain 3-foot draft. We were using, of course, fuel oil on that and on all our towboats by that time. We meanwhile, while increasing the towing capacity of this steamer, placed an order for three specially designed cargo-box barges for the Missouri River. We had learned that the 1,000-ton type of barge was a little bit larger than might be most economically used on the river in the present condition of the improvements, and these three additional barges were ordered, with a capacity of 600 tons on 6-foot immersion, or running about 135 tons per foot of immersion.

We had also learned from operation that the class of freight offered us for movement upstream was of such bulkiness that it would be impossible to load 1,000 tons in a 1,000-ton barge with a cargo house such as we had, 12 feet high and covering practically the whole deck of the boat; and the last three barges ordered, 600-ton capacity, were constructed of a type calculated to have a great deal more cargo-carrying space inside of the cargo house. That brought us up to the fall of 1914, when we placed a contract for four additional steel barges, which we call lighters. They are built of steel, but without cargo houses. There is freight offered us of a class that does not require housing inside of a steel house—a considerable amount. In the high-water season we calculated to use those flats, and do use them for the movement of structural steel and such classes of freight that do not require particular protection from the weather. We also use those barges, and intended to use them, and just now are beginning to use them, as lighters. By that I mean a small barge which can be carried, without a great deal of expenditure of power, with the tow of merchandise, and when an unexpected shallow place develops in the channel enough freight may be lightered off the merchandise barge to allow the barge to pass over the shallow place. There are usually only one to three shallow spots in the river that regulate the load of the whole river, and we realize that if we can carry a better load and a larger load the whole distance of the river by the mere process of lightering over one or two shallow crossings it will be to our profit. These four steel lighters are 120 feet long, 20 feet wide, and five feet deep, drawing 10 inches of water without cargo, and having eight water-tight compartments; were built in Kansas City at the mouth of the Kansas River by Kansas City labor and by a Kansas City firm, and at a price which was less than other shipyards were willing to bid. They were specially designed, however, for the particular purpose, and designed with the idea of cheap building. Those barges are in service now, and since they have been put in service, like

anything new in transportation, many uses are found for them which were not originally anticipated. For instance, there is a great production of apples along the Missouri River that move in barrels to storage and to market. Those have been moving out of certain districts by rail to St. Louis, Chicago, Memphis, and elsewhere; and we have been able to secure for these flat barges, by dropping a barge at an apple-picking landing or town and going on and leaving it, we have been able to secure a great deal of tonnage which is loaded by the shipper just as he would load a box car on a switch track; and the next tow passing up or down, depending on the movement of those particular apples, picks up that barge in connection with the regular tow and moves it through to destination.

Congressman BORLAND. Mr. Mackie, your principal purpose, then, is to give service to those intermediate towns by dropping the barge for loading these apples, or whatever the freight may be, to be picked up by the next towboat that may be coming up or down?

Mr. MACKIE. Yes, sir; that is it.

Congressman BORLAND. In that way can you give service to intermediate points for shipment similar to that given by railways?

Mr. MACKIE. We have given service with those barges for the shipment of live stock, grain, apples, as I have just stated, and hay, so far.

Congressman BORLAND. Originally those barges were intended for lighters in the river?

Mr. MACKIE. Yes, sir; and these other services have developed.

Congressman BORLAND. I believe you have covered the point that you first began building barges of larger capacity and gradually have been compelled to put on barges of smaller capacity on account of shallow places in the river?

Mr. MACKIE. I would like to say that that change to the smaller barge has been based on our experience and what in our judgment would be the most economical for the river service.

Congressman BORLAND. How does that affect the cost of handling the freight? Is it more economical to handle freight in large barges fully loaded than with barges partially loaded or small barges?

Mr. MACKIE. That is a difficult question to answer, yes or no. Generally speaking, a large-capacity barge is desirable. There are conditions under which, with a deep channel—a 6-foot channel, I mean, because we think that is deep, in the Missouri—there are conditions under which a small barge could be profitably used also. Undoubtedly, when we get our channel improved permanently, we will be using small and large barges; and the big tonnage moving through from points like New Orleans, for instance, to Kansas City, will move in 1,000 to 1,500 ton barges, and shorter distances the tonnage handled may move in smaller barges.

I might say, on that, that we are sometimes offered, say, 400 tons of freight from a given shipper at a given point. We are repeatedly offered freight on the Ohio River. We do not run on the Ohio, but sometimes we go into the Ohio for reasons of dockage or repair, or something of that kind; we have gone there and we have had barges built on the Ohio, at Ambridge, near Pittsburgh, and there was no trouble in loading those barges. And if a man offered us, say, 400 tons from, say, Paducah, Ky., and we were going to some place near there, for example, we might be able to set out a 600-ton barge and let him load his 400 tons in it, giving him a through water haul to Kansas City. We have done that some five or six times. And we are to-day offered three barge loads by the Standard Sanitary Manufacturing Co., of Louisville, Ky., consisting of bathtubs and fixtures, if we will take them—if we will come that far for them. We can not go light, of course, to Louisville to bring out a load, if we had no other reason for going. We know that we must have freight both ways to profitably operate, and virtually have freight both ways on the Missouri River under the present condition.

Congressman BORLAND. What has been the policy of the company in expending its capital in the building of barges and in regard to building in advance of the permanent improvement of the river?

Mr. MACKIE. Well, I do not suppose I will be violating any confidence when I tell you that my board of directors, or the board to which I have to answer, is hard-headed. It is not an easy problem to get an appropriation out of that board. In other words, we have to make a show-down and then argue pretty strongly for equipment, because the board feels it a duty to preserve and conserve the capital of the company so as to be able to build boats of a

type that will be most satisfactory for use and most economical and with the biggest power when we get a little more depth of water.

I might say that from my own standpoint it has been somewhat of a disappointment not to be able to put on some larger-power boats—much larger-power boats—by this time. We had hoped by 1915 we could have another or possibly two additional power boats. I would like to digress just a moment or two on that for the benefit of the board.

I think all the members of this board will understand that to operate a 300-horsepower towboat there are certain limitations in the matter of tonnage that you can take. We figure generally on the Missouri River that we can move upstream at merchandise speed—that is to say, 5 miles an hour or thereabouts—1 ton of freight per horsepower. A 600-horsepower boat will move practically twice the freight, and the crew cost is no greater on a 600-horsepower boat than on a 300-horsepower towboat. We hope to increase our power boats from 600 to 1,000 horsepower and next to 1,500 horsepower. The law requires, and the regulations of the Department of Commerce require, a certain number of licensed men. They are the men who draw the salaries. There are certain men necessary to operate a boat, whether it be 300 horsepower or 1,500 horsepower; and practically the only difference in the cost between the operating of the larger power boat and the smaller power boat is the fuel cost.

Congressman BORLAND. How much time is involved now in the upstream and downstream trip?

Mr. MACKIE. We figure our upstream trip at 100 expired hours under the present condition. We have made trips this year in 80 hours upstream, running continuously night and day. The water has been unexpectedly high, and our men are becoming much more familiar with the Missouri River operating conditions, and some of the men have the spirit which results in continuous work to get through and make time. Ordinarily our time of delivery from St. Louis in 100 hours.

Congressman BORLAND. How much of that is spent in straight running and how much by delays caused by bad crossings?

Mr. MACKIE. It is very difficult to give you a figure as to delays on account of bad crossings. In the fall of the year we can not maintain and do not maintain in low water or in bad season the 100-hour service from St. Louis; but that is the average time. There are times when the upstream trip consumes seven and sometimes nine days, and the difference between the four and a half days and the nine days is usually the time spent on sand bars or occasional delays or loss of a few hours because at this season of the year of fogs on the river which prohibit running at night.

Chairman BLACK. At about how many points do you find those delays? You spoke of from one to three.

Mr. MACKIE. Well, Mr. President, they are not any two months in the same place. They are at uncertain points. For instance, in the 1914 season our low-water period began in July—unusually early—and it was not very long until we developed a crossing at St. Charles, Mo., down at the lower end of the river—a very, very bad crossing that limited our loading for the whole stretch of the river; and there perhaps we suffered more delay and loss of time than at any other one point. And that can be carried on further by way of illustration. One boat was delayed at St. Charles going down, and another boat came down with a barge loaded with flour, and with the two boats together, and transferring, we lost three days. Then we had another barge loaded at St. Louis and another partly loaded to come upstream, and we started the towboat *A. M. Scott* in regular order back to Kansas City. She came back to the same crossing and the channel through which she had made the crossing in an irregular and unexpected circle or half circle, the water not running in that direction at all; but there being the deepest water which we found by sounding, but in the meantime the channel had changed, and she went aground; and the 1st of December was approaching and the cold weather coming from the north, and our officers got very uneasy about her, of course.

Finally she got through the crossing, but that delay at that crossing resulted in our having a towboat and barge loaded with merchandise, mostly first-class freight on that particular trip, caught in the ice below Jefferson City; and fortunately Uncle Sam had done a little work near where we were caught, and we were able to get in below a dike. Of course we lost money on that account, and that loss was chargeable to the delay at the narrow crossing.

That is only one example, and there are many examples of loss in our operations that are traceable back to the same difficulty of operation.

Congressman BORLAND. You are speaking of eliminating the delays of loading and unloading at intermediate points by dropping an empty barge and letting the power boat proceed.

Mr. MACKIE. As quickly as possible after we adopted the power boat and barge system we secured enough barges to have barges loading and discharging at either terminal while other barges were underway, and also had enough barges to sometimes be able to drop a large barge at an interior point where, say, there were 10,000 bags of wheat or something of that kind to be loaded at one time, and we were thus able to get that loaded without delay to the towboat.

Congressman BORLAND. Now I am going to call attention to the picture opposite or following page 143 in the brief, and ask you to give the board a description of that barge as shown there.

Mr. MACKIE. Oh, I see; the interior of the barge. Is that the picture?

Congressman BORLAND. Yes; that is the one. Now, what sized barge is that?

Mr. MACKIE. That is one of the 1,000-ton-cargo box barges. It has, as you see, corrugated-iron sides, and the corrugations in this picture are on the partition. Inside of the barge there are three of those partitions with steel doors, making four fireproof compartments in a fireproof barge. I might say, in regard to fireproofing of our equipment, to give you an illustration of how secure we feel as to their being fireproof, that when this barge of which you see the picture of its interior, which was brought here from Pittsburgh, arrived we offered a prize to anyone who could set the barge on fire. We had quite an attendance at the municipal wharf on her arrival, but nobody attempted to set it on fire. The barge itself is absolutely fireproof, as are all of our barges. It is equipped with a cargo house of steel, and we keep that cargo house locked from terminal to terminal and allow no one inside of the cargo house except in loading and unloading.

Congressman BORLAND. You carry your own marine insurance?

Mr. MACKIE. Yes; we have.

Congressman BORLAND. You have absorbed the marine insurance?

Mr. MACKIE. We have, since the operation of this company, carried our own marine insurance.

Congressman BORLAND. That is, you pay all losses yourself?

Mr. MACKIE. Yes, sir; for the reason that marine insurance as originally quoted us—at first there were no quotations and it was not possible to get any, because the Missouri River was considered extra hazardous because of so many wooden hulls in the bottom of the river between here and St. Louis, and it was impossible to get a rate in 1911. In 1912 we were offered a rate which we considered entirely out of line. In 1913 it was slightly lower; in 1914 also slightly lower; and again in 1915 also slightly lower. There was some marine insurance written this year at the rate of one-tenth of 1 per cent for flour. That was the Great Lakes rate; but we were not able to get insurance at that rate to apply to all our commodities, or all our freight. If we could, we would possibly have placed insurance with them; but the tendency among insurance underwriters is to recognize our equipment as being of a class that is entitled to a lower rating than previously given inland rivers of the country, and we now have quoted us lower rates than are quoted on the Mississippi and Ohio Rivers, but still we think they are a little bit excessive.

Congressman BORLAND. Is it a fact that your rates now include, in practical operation, the marine insurance?

Mr. MACKIE. Yes, sir.

Congressman BORLAND. That is, the rate is 80 per cent of the net rate?

Mr. MACKIE. Eighty per cent of the rate, and that includes marine insurance and carrying charges, and on carloads, where delivered by switching, the absorption of the switching charges.

Congressman BORLAND. Now, is this barge line operated at the present in such a way that freight can be transferred from it to rail carriers and from rail carriers to the barge at the terminal points?

Mr. MACKIE. Yes; a big volume of our business moves and is exchange business between rail and water, both at this end and at the other end of the line.

Congressman BORLAND. You absorb the switching charges between the shipper on the sidetrack in Kansas City and in St. Louis and your wharf?

Mr. MACKIE. We do in certain prescribed limits. We absorb in Kansas City on delivery or receipt of carloads of freight up to and including $9 per car.

There are a few places where it is a little bit higher, and there the shipper pays all over the $9.

Congressman BORLAND. So your rates include not only absorption of marine insurance but absorption of switching charges at the terminal up to $9 a car?

Mr. MACKIE. Yes, sir. I do not mean by that that each car costs us $9 to switch, but that is the maximum.

Congressman BORLAND. Oh, no; that is the maximum.

Mr. MACKIE. That is the maximum.

Congressman BORLAND. Now, I understand that this larger power boat you have been talking of, which your board of directors had under consideration, will increase your capacity how much?

Mr. MACKIE. The two boats now in service have an indicated horsepower of 600 and 620 horsepower, respectively; and our naval architect has been able to design a boat with 1,000 horsepower on 3-foot draft, increasing our horsepower, therefore, by 400, and practically doubling our freight-carrying capacity; that is, as we already have the barges, and this one towboat will do almost double the amount of work that a 600-horsepower towboat will do under the present conditions.

Congressman BORLAND. What is the present prospect in regard to the use of the rivers by farmers and producers who are making their own shipments at way points?

Mr. MACKIE. We have been getting very encouraging support from the farmers, particularly, of course, in the bottom lands. The farmer, like any other shipper, is looking to his own best interest, and where he can ship by river and save himself some money and save himself the haul he will do it; and when he learns that he can ship by river direct from his farm to the central market and get the market price he is generally disposed to do that. The farmers are shipping to-day, and have been since we began our service, into St. Louis and into Kansas City, and selling direct where they never had done so before. Always before that time they had sold in the local market to the local mill or to their local buyers. And there are also some local buyers who have established business in grain buying, for instance, in the interior, who are patronizing our line very extensively and profitably for freight moving to St. Louis or Kansas City.

Congressman BORLAND. Isn't it a fact that some organizations of farmers are now putting up warehouses for the delivery of their freight?

Mr. MACKIE. Two years ago there was a warehouse built near Waverly Landing. The first warehouse was built at Fullers Landing, opposite Waverly, by some farmers and they accumulate their freight there; and the inbound freight or freight consigned to the farmers was received at that warehouse. There is one community warehouse under way now—that is, we have been informed that it is to be built, and have been asked what location on the river bank in that prescribed limit would best suit us.

Congressman BORLAND. This river bottom land, especially that reclaimed land along the river, is practically tributary in that way to the commercial traffic on the river.

Mr. MACKIE. Yes, sir; we call that bottom land our meat. That is our freight.

Congressman BORLAND. That is your local business?

Mr. MACKIE. Yes, sir. I might say for the benefit of the engineers, if they do not already know it, the farmers continually carry little memorandum books in their pockets, and we have found to our surprise and gratification that in those little memorandum books notes have been taken by the farmers where they have figured out the cost of hauling by their wagons from the farm to the nearest station, and also what it costs to haul to the river where there is a river landing; and that also enters into their judgment or their determination as to whether they will ship by water or by rail.

Congressman BORLAND. Now, one point I want to bring out in that connection—that reclaimed land or land protected from overflow and erosion by the improved channel becomes immediately tributary in a commercial way to the movement there, does it not?

Mr. MACKIE. Yes, sir.

Congressman BORLAND. What has been your experience in regard to growth of popularity of the boat line among the merchants and shippers of Kansas City and St. Louis as the conditions of service have improved?

Mr. MACKIE. Well, first, I think it may be generally recognized that to establish a transportation line over a course and by a method which had been in

disuse some 20 or 30 years was necessarily a difficult process. First, traffic men generally employed by shipping houses are trained along, I might say, railway lines. They know railway rates from districts and into districts where their commerce moves, and when a carload of freight is ordered and the traffic man has the routing of it he immediately, without consulting any tables or books, knows by what railway lines he wishes to route his freight.

Now, to have him include the Missouri River line in his routing required keeping the Missouri River line before him; and no matter how friendly a traffic man might be, many and many a car has gotten away from the river line that was intended to come to it or would have come to it except for the gentleman's familiarity with the railway line. But, however, in five years' time that condition of things is being more or less ironed out, and more people in traffic lines to-day who are paid salaries as traffic men think of the boat line and know about its advantageous rate and efficiency and its method of payment of claims than ever before; and it is a steadily increasing process from year to year. Further than that, there are some heads of houses that have to be convinced; and when the head of a house is convinced and passes the word down to the traffic man, I am sorry to say he does not always follow the advice of the head of the house; but those conditions are being ironed out.

Col. ABBOT. Isn't there a question comes in there, now, of your not being able to carry all the freight offered, and that makes slower progress in the developing of your carrying trade?

Mr. MACKIE. Well, Col. Abbot, I would say that there are not so many traffic men in Kansas City, not so many big houses that have big tonnage, but what a live orgazination can keep in touch with the traffic men. And as proof of that we have one house here which is a large shipper from the East of pianos and musical instruments by water—all high-class freight. We might be accused of giving them a little special service in order to get their business; but I submit that we do not. We try to treat everybody alike. They ship several carloads at a time routed from a certain district of our country, and their traffic man will telephone our Mr. Poland and say, "We have five cars of pianos coming your way, and we are going to need a few of those right away. Therefore, we would like to have you divert one car." And we will do this because we are glad to have the four and divert the one. Now, that firm does not hesitate to route all its business over our line for fear that we will not be able to take care of them, because if they want a car diverted we do that, and they would have no more to pay in freight charges than if they had routed it all-rail in the first place, because the rates break on St. Louis.

Congressman BORLAND. I think Col. Abbot means to ask you whether the fact that you have not been able to accept all the freight offered has not had a tendency to discourage the growth of your business.

Mr. MACKIE. I think it has.

Congressman BORLAND. And that as fast as you are in a position to increase the amount of your carrying capacity you will be in a position to ask for more freight.

Mr. MACKIE. That is demonstrated in this way, by the ability to carry more freight, the houses that patronized us last year have very materially increased their patronage this year; and in addition, we have new shippers.

Col. ABBOT. You made one other little statement there, as I understood, that the putting on of this new boat of 1,000 horsepower would practically double your present capacity when you already have two boats of 600 horsepower each.

Mr. MACKIE. We have 1,200 horsepower as it is; and I think you will understand that the division of horsepower up into many units totaling the same as the one unit would not have the same towing capacity.

Col. ABBOT. On the other hand though, where you want to do any local business, then you have got to utilize your smaller equipment, because in that business you can not get the cargoes and so the big boats will be put on the through service.

Mr. MACKIE. Yes, sir.

Col. ABBOT. And the little boats on the local service—intermediate service?

Mr. MACKIE. Well, by taking care of the local business with some of these flats, we are not obliged to hold the towboats off the through business.

Col. ABBOT. But you would put the small boats in the small business or local business and have all the big ones run through service?

Mr. MACKIE. Well, I think it might be found profitable to let a big towboat pick up one of these flats, if you realize that a 120 by 20 boat properly built and properly designed does not require much power to push through the water,

and if you realize that a man can stand on the deck of it and take a 1-inch line in his hand and throw it over a standard in passing, you will see that we would not lose much time in picking up one of these flats, and it would be profitable in the interests of prompt service to move the barge as quickly as possible after it is loaded.

Col. ABBOT. That was what I wanted, that you should give a little explanation of just why it would actually double your capacity.

Mr. MACKIE. Well, there is another reason than that. The capacity this year was based on the operation of the two towboats and eight barges, because the other four flats we are just building here along through the season, one at a time this summer. Now, as I have explained, the flats have developed a tonnage for us that we did not anticipate. Now, we have those for next year in addition to our new towboat which we hope to have very soon.

Col. WINSOW. When you speak of this local freight that you pick up, does most of that go to St. Louis or does much of it come up this way?

Mr. MACKIE. The majority of the freight, such as grain and live stock, goes to St. Louis.

Col. WINSLOW. And the larger part of the tonnage you get where—in the lower part of the river?

Mr. MACKIE. No, sir; it is not. We get more tonnage in the upper part of the river from the farm landings than in the lower part of it, and the upper part of the river seems to trade with Kansas City.

Col. WINSLOW. They get their supplies from Kansas City?

Mr. MACKIE. Yes, sir.

Col. WINSLOW. And send their produce to St. Louis?

Mr. MACKIE. Yes. We had only 10 days ago two carloads of brick to move to an interior town, Miami, and also some local shipments of foodstuffs for Miami. We put the two cars of brick and all the local stuff on a flat and took it down to Miami and will load apples back; and in dropping that the towboat lost exactly three minutes' time—dropping that flat; and the local man there representing us will deliver the freight. That same flat is loading back now with apples.

Col. NEWCOMER. Do you interchange freight with the railways on through bills of lading?

Mr. MACKIE. We do on eastbound grain and grain products and flour for export. We are in the position of having filed voluntarily, if you please, a tariff with the Interstate Commerce Commission naming through rates from Kansas City to the seaboard. In that case we reduced the rate to the local consignee by 20 per cent of the prorate; that is, 20 per cent of the division over which we operate. That is to say, if the division on a 24-cent grain-products rate to the seaboard were 15 cents up to the Mississippi River and 9 cents Mississippi River to Kansas City, then our differential would be 20 per cent off the 9 cents, or 1.8 cents, leaving 7.2 cents, which added to the 15 cents, would make 22.2 cents.

Col. FLAGLER. Do your boats go into the Ohio for any purpose except to bring down new boats and barges?

Mr. MACKIE. Well, we have been in the Ohio twice to get marine ways to pull out for repairs. They are sadly lacking in that on the Missouri River, although we hope that eventually Uncle Sam will have some ways at the Gasconade, which is a good location for them.

Congressman BORLAND. I want to call the attention to a particular provision of Congress making it compulsory upon railways to make through rates applicable by water, and those through rates are referred to in our brief, so we are not covering those points in detail where they are already before the board.

Now, Mr. Mackie, how are you prepared at this time, after this experience in operating a boat line, to go after business in Kansas City on the basis of service and rate?

Mr. MACKIE. I am pleased to say in answer to that question that this is the first year in which we have been able to work—to go out and solicit tonnage purely on the basis of service offered and the saving in rate. That is, in the past there has been an element of sympathy for the river which has been taken advantage of in soliciting business from shippers; but now we are asking for freight purely on the basis of service rendered and the saving in rate, and we are gettng it on that basis.

Congressman BORLAND. Are there any further questions?

Chairman BLACK. I would like to ask a few questions as to the amount of time consumed in the movement of freight by rail.

Congressman BORLAND. Can you give us that, Mr. Mackie? Information as to the amount of time consumed in putting a car of freight into Kansas City by rail?

Mr. MACKIE. I doubt whether anybody can answer that question. Freight comes from St. Louis to Kansas City very quickly by rail sometimes and sometimes not very quickly. There moved last year in a specific instance two carloads of a certain commodity for a house that we had solicited. We got one car and the railway got the other. There was a question of friendship both ways in that particular instance.

The car by boat was under way five days from St. Louis. It got to us the day we were sailing, so there was no terminal delay at St. Louis, and we delivered it to the man at the plant here by switching it to the man's plant; his reason given me then for not giving us both cars was that he could not stand the time on one and that he had to have it in a hurry. However, our delivery was one day ahead at his plant of the other delivery. That is not offered as a criterion or proof of freight movement; but freight movement by rail, I think most every traffic man would tell you, is irregular as to time between St. Louis and Kansas City. It depends a great deal on the service which it is desired to give to a certain customer or a certain commodity or to the exigencies of the business.

Chairman BLACK. I wanted to ask you that simply because of the fact that on the Hudson, for example, river delivery has been found very much more rapid and much more accurate than rail delivery; and I wondered to what extent that same factor would enter here on the Missouri River.

Mr. MACKIE. I think it would be found that quicker delivery by water is limited to short hauls and is very largely between local points. Your Hudson River, of course, is different from this proposition here. Interior towns, of course, can always get quicker delivery by boat than by rail; but on the through haul from St. Louis to Kansas City we do not offer faster service than rail, but we solicit business on the theory that there is a 20 per cent saving and that that entitles us to make a little slower delivery than by rail. I have no doubt but that on the average it is a little slower. Then under our operations we have now a sailing every fifth day. That means loss of time at the terminal on some freight—that is, freight going out, outbound freight. If we had daily sailings, which will eventually come, the loss of time will be cut down at the terminal so that practically there will be no loss of time at the terminal, and then the greater length of time will be only the greater time in running plus a day at either end.

Col. NEWCOMER. Isn't there an average time in which a man expects to receive a carload of freight here by rail that you can fairly count upon?

Mr. MACKIE. I presume there is; but that question can be better answered by some traffic expert who will be put on the stand, as I understand from the gentlemen in charge of the hearing. My experience has been on the river, and I don't know as to the railway time, only by hearsay.

Chairman BLACK. One other question, Mr. Mackie, that I would like to ask you. You spoke about using fuel oil. What arrangements have you made for supplying your boat with oil?

Mr. MACKIE. We secure our supply of fuel oil from the Standard Oil Co., which has a refinery at Sugar Creek, outside of Kansas City, about 10 miles on the river bank, and we have pipe-line delivery from the tanks of the Standard Oil Co. at the river's edge. And the same condition obtains at the other end at Wood River, Ill., which is a mile above the mouth of the river, where the Standard Oil has its Wood River plant; and we get our supplies there under the same arrangement. During the operating seasons we get oil at this end and the other end by direct pipe-line delivery, and I might say that we can take on a bunkering of oil sufficient to make a trip to St. Louis and back more than half way in less than two hours' time by that arrangement. We have emergency supply stations, one a third way down at Glasgow and the other two-thirds of the way down at Hermann. We keep those emergency stations full of oil for emergencies in case of grounding between terminals or something of that kind.

Congressman BORLAND. Anything further, gentlemen?

Senator REED. I desire to bring out a few matters that have been touched on and which I think might be made a little clearer. I wish you would tell the board the difficulties you encountered when you first started to reestablish navi-

gation with reference to the lack of terminals, lack of wharves, lack of pilots, lack of skilled employees, etc., if you can make a short, condensed statement so that it can be readily used.

Mr. MACKIE. In the beginning there was a shortage, of course, of licensed men. A licensed pilot is very important and doubly so in an unimproved channel where the deepest water is in an uncertain location. There were very few desirable pilots available, and there was good reason for that, because there had been no employment for many pilots on the river. The few pilots that were available were employed by the Government very largely because they had maintained some sort of boat service all the time. We found it necessary to pick up the best pilots we could get and some material out of which to make pilots, and with all due respect to the pilots that were available, I think our case is notable in that all the pilots we have now are men who have been trained and who have gotten their license in our service with one exception. They are all young men who have been with us and got their license while working for us. Being unable to get pilots and even if we had been able to get high-class pilots, the fact that the river had been in disuse would naturally mean that they would not know where the channel was and not be familiar with it, and it meant a loss of a lot of time and meant a lot of expense on that account.

The engineer question was somewhat different. There were plenty of licensed engineers, but none or very few that had been accustomed to working in the way we wanted to work. We have always endeavored to run the boats just as an industry on shore would be run, and there were a lot of prejudices and conditions, you might readily understand, in the inland water business that had to be overcome. Our engineers as a body, with two exceptions, are men who were trained under our control.

The lack of terminals is the big thing. We are very sure nobody could successfully operate on the Missouri River, even with a deeper channel, if proper terminals were not provided. Kansas City's municipal terminal was, of course, the result of the boat-line organization here, but was not ready when we first began to operate, and we were obliged to handle freight by hand, which was very costly, of course, and very slow. Then when the terminal was completed and we had in the meanwhile completed a terminal in East St. Louis, we were practically able to cut our terminal cost in two. We had the experience of unloading one boat here at $1.60 a ton, low-class freight and all kinds. Barbed wire was very costly to unload by roustabout labor, the barbs sticking in the negro's shoulder, and he does not handle it very well. But using freight-handling devices such as are available now I am pleased to say that we have been able to more than cut that cost in two. Our 1914 terminal cost, including both terminals, loading and unloading at Kansas City, and loading and unloading at St. Louis, has been cut to 63 cents per ton. I have no definite figures up to October 1 of this year, but we will make a further favorable showing this year.

In that connection, if you please, Senator, the Kansas City municipal terminal, when originally built and equipped, was not built as a copy of anything in existence, because there were no inland water terminals in use, so far as we could learn or the city engineering department could learn, from which to copy. Of course there were seaboard terminals and some things were learned from some of the seaboard wharves; but the municipal terminal of Kansas City is very largely original and necessarily some features in that terminal are not what we would build or what the city would build if it were building now after an experience of five years; but the fact that we have freight-handling devices that have more than cut the cost of freight handling in two is in itself somewhat pleasing. And now our tonnage has developed and we have learned from experience that one freight-handling unit—by that I mean one freight-handling device handling freight from the barge to the dock or cars and vice versa—is not sufficient, even though the tonnage be small; and I am pleased to say that the board of public works has given us assurance that a second freight-handling unit will be installed at Kansas City by the opening of navigation next year, and that a second Missouri Pacific switch track into the wharf house will be put in, which will give us 14 cars switch capacity. These additional facilities, even though we did not handle any more tonnage, would save us some money and some time in freight handling.

Senator REED. Now, Mr. Mackie, did you have any difficulty about dock laborers and getting your men?

Mr. MACKIE. Dock labor, Senator, if you please, is always a problem; but, like anything else, the more experience you have with the labor the better able you are to handle your labor.

Senator REED. I did not care for details, but just if you had had difficulty?

Mr. MACKIE. Yes, sir.

Senator REED. And if you have overcome it to a large extent?

Mr. MACKIE. Yes, sir; very satisfactorily.

Senator REED. Have you been able to overcome your difficulty about pilots and engineers?

Mr. MACKIE. We are very well pleased with the service we are getting.

Senator REED. And have your dock facilities been constantly growing better?

Mr. MACKIE. Yes, sir.

Senator REED. And your experiments in the building of docks and in the handling of freight has enabled you to improve the service in that respect and save money?

Mr. MACKIE. Yes; very much.

Senator REED. Now, one other question, if I can get this in the most condensed form, because I do not want to consume but a moment. When you undertake to solicit freight business, what are the principal difficulties that you meet with? By that I mean what objections are raised? Is it to the fact that your boats move too slowly, or that you are uncertain in your trips, or that you have not proper facilities? What are the principal objections that you have had to meet in order to get business?

Mr. MACKIE. Slower time than rail, or generally considered slower time than rail, breaking bulk, or transferring from the car to the barge when the methods are not thoroughly understood. The question with the inexperienced shipper is when and how his claims will be paid and how they will be handled. An objection in most cases is the fear of slower time and of the breakage of merchandise handled. I want to say—and I do not want to answer that question and stop there—I want to say that this season when we have been able to induce the shipper to try the line, even with this prejudice, we have not had to attempt to explain that away the second time, because of our ability to handle freight with reasonable dispatch and regularity and without undue breakage.

Senator REED. Now, as to the question of slower time, while that has been gone over, I want to put it in again at this point. If the river had a 6-foot channel, what time then could you make between St. Louis and Kansas City? What kind of service could you give?

Mr. MACKIE. With boats designed for a 6-foot channel, which we should have and hope to have, when we have a 6-foot channel we should have no difficulty in making Kansas City from St. Louis on the upstream trip around 70 hours.

Senator REED. What is the time now?

Mr. MACKIE. Well, our best time is 80 hours, and the average time is 100 hours.

Senator REED. Downstream?

Mr. MACKIE. No; upstream. Coming from St. Louis to Kansas City upstream it is an average of 100 hours, and the best time is 80 hours; and with an improved channel it is fair to assume we could reduce that time to 70 hours.

Senator REED. Now, how much downstream?

Mr. MACKIE. We make downstream now without running nights in as low as two and a quarter days, daylight running. With an improved channel, and with safety in night running, we should make St. Louis with ease in 28 hours. That would be 1 day and 4 hours.

Senator REED. So the improvement of the Missouri River will directly reach the principal difficulties you have left, namely, that of time and safety?

Mr. MACKIE. Yes; we feel so.

Senator REED. Now, I want to ask you whether you have found that there has been a disposition to support the boat line? Whether you have built up a good will, even under the adverse conditions now existing?

Mr. MACKIE. We have a good will now that we consider quite valuable to us, and we have shippers also who are friends, because of the service they have got and the saving.

Senator REED. I don't know whether you can answer this question or not. It has been developed that up to this time you have run the boat line at a loss. I wanted to ask you whether it is not a general rule that railroads, during the first years of their existence and when they are developing their territory, have been almost universally compelled to operate at a loss?

Mr. MACKIE. In order to answer a similar question I had occasion to look up records of the western railroad lines through a brokerage house, and was informed that the shortest time in which a new line had paid dividends in this part of the country was nine years. I don't know how true that is.

Congressman BORLAND. Mr. Mackie, on that line is 80 per cent of the present rail rate, the lowest possible price on which you figure you can carry freight on a fairly improved river?

Mr. MACKIE. No, sir; we should be able to reduce that rate with more equipment, bigger tonnage, and an improved river. I don't know whether it is generally understood or not, but I would like to say from the operating standpoint that even 6 feet of water in the Missouri River, if not a permanent channel, would not make possible the efficiency and cheapness of operation that is desirable. When we speak now of having 4 feet over the crossings as we have most of the time, that does not mean a permanent 4-foot channel, and the fact is that the expense of operating is very much enhanced by the fact that even that 4 feet is sometimes impossible to be found by the boat going down without a very painstaking search, and the pilot sometimes will even take a chance and get out of the channel.

Congressman BORLAND. Do you figure that you can still further reduce the rate below the 80 per cent of the rail rate?

Mr. MACKIE. I do not want to be put in the position of saying we will further reduce the rate. If you want the question answered as to whether I think it can be done under an improved 6-foot channel, I will say yes.

Congressman BORLAND. Now, I will ask you about the character of the freight you have been handling and the difference in the character of the freight from season to season. How is your percentage of high-grade freight now as compared with when you originally started—pianos, dry goods, notions, and so forth?

Mr. MACKIE. Well, generally speaking, we are getting a great deal more high-class freight—a great deal more third-class and higher—but as for a definite answer, I would rather you would ask Mr. Poland, our general freight agent, who is familiar with that data.

Congressman BORLAND. He is your traffic manager?

Mr. MACKIE. He is our general freight agent.

Congressman BORLAND. I thought perhaps you could answer.

Mr. MACKIE. I don't know and prefer to let him answer the question.

Judge W. T. BLAND. One question. I may save time by asking it. Mr. Mackie, I am afraid the impression may exist in the mind of the board that we have only $300,000, or about $300,000, which would be available for the purchase of additional barges and towboats. I wish you would explain to the board how much money has been collected and how much you expect to collect from solvent subscribers. Isn't it a fact—or, first, let me ask you, it is a fact that a large amount of this money bears 5 per cent interest—in fact, all of it—and some perfectly solvent subscribers are carrying their subscriptions at that rate and can pay when called upon?

Mr. MACKIE. Yes, sir. Our capital was raised by subscriptions to preferred stock payable 10 per cent quarterly, the deferred payments drawing 5 per cent interest per annum. We have collected $1,008,000 in round numbers on the preferred stock, and have uncollected upward of $200,000, of which we estimate between $125,000 and $150,000 is still collectible; and I might say that we are collecting money every day on those delinquent subscriptions. A few of them are from firms that are absolutely solvent and in a position to pay, but who prefer paying their 5 per cent even when urged to pay up the balance of the subscription.

Judge BLAND. So that there would be a reserve fund of between four and five hundred thousand dollars?

Mr. MACKIE. My estimate is $450,000 of additional cash available, or will be available, for expenditures in new power.

Judge BLAND. And if operated successfully at a profit, with the differential that exists against the rail rate and with regular service there would be not much trouble, Mr. Mackie, in raising an additional amount, would there?

Mr. MACKIE. Well, you went through the campaign I did in raising the money, and I think you are as prepared to answer that as well as I; and I do not think we need have much trouble in getting it under those conditions.

(Witness excused.)

Congressman BORLAND. Is Mr. Jost, the mayor of Kansas City, here? The mayor not being here, I will ask Col. Coyle, of St. Louis, to take the stand, as I want to ask him about the proposed terminals at St. Louis.

Col. P. W. COYLE, called as a witness, testified:

Congressman BORLAND. Col. Coyle, will you please state your name and residence?

Col. COYLE. P. W. Coyle, St. Louis, Mo.

Congressman BORLAND. Col. Coyle, I want to ask you about the proposed terminals in St. Louis. You are the transportation commissioner of the Business Men's Association of St. Louis, are you?

Col. COYLE. Yes, sir.

Congressman BORLAND. Can you tell this board now, in the beginning, what the present attitude of St. Louis is in regard to providing municipal terminals.

Col. COYLE. We have recognized for a long time that we could not utilize river transportation facilities unless we could enable the industries on track at St. Louis to get to the river transportation facilities. In other words, we have recognized that our water and rail transportation must articulate freely.

We have in the neighborhood of 900 industries on track at St. Louis. Now, those industries can not patronize any water-transportation facilities to any great extent. They are patronizing now the Missouri River Transportation Co. to a limited extent, because of the fact that has been stated here, that the switching charges are absorbed. But it is my understanding that an absorption is made, but it is for cartage in lieu of switching. That, of course, limits the movement of the traffic to that from those industries on track. Therefore the traffic that is now being given by the St. Louis shippers to the Missouri River Transportation Co. is no criterion at all of what they could get and would get had we the terminal facilities and the railroad connections which we shall have when our municipal dock is completed. We have the assurance of the mayor of St. Louis that the appropriation is available and plans are drawn, and that the dock will be completed promptly so that our rail-and-river traffic will freely articulate. And in connection with that there will come into the possession of the city of St. Louis 11 miles of track which will be operated by the municipality in connection with that dock. Those tracks will connect with all our terminal tracks in the city of St. Louis, so that when our dock is completed and we have possession of the 11 miles of track we will then be in connection with all of the industries in St. Louis. Then we can give our traffic to boat lines.

Congressman BORLAND. In that connection, Col. Coyle, the dock of the Kansas City-Missouri River Navigation Co. is located at East St. Louis, Ill., is it not?

Col. COYLE. Yes, sir.

Congressman BORLAND. But you are purposing to establish a municipal terminal in the city of St. Louis?

Col. COYLE. Yes, sir.

Congressman BORLAND. Which will reach, by means of connecting switch tracks, practically all the industries in the city of St. Louis?

Col. COYLE. Yes, sir.

Congressman BORLAND. And give you direct access to the boat line?

Col. COYLE. Yes; exactly.

Congressman BORLAND. Now, that is well under way in St. Louis?

Col. COYLE. Yes, sir.

Congressman BORLAND. Now, can you tell this board what is the attitude of the commercial interests and the shipping public of St. Louis toward the importance of the Missouri River as a freight carrier?

Col. COYLE. We feel this—I speak now for the Business Men's League of St. Louis, representing 2,400 members. We feed that it is of vital importance to the commercial interests of St. Louis that we have this river transportation fully developed between Kansas City and St. Louis. We are on the Missouri River. We recognize the Missouri River as it flows by our doors, because it does not mix with the Mississippi until it flows by us; and the construction of that dock and boat will be followed with two others. We feel that we are putting ourselves in a position to take advantage of just such facilities as our shippers have been contending for for years. One witness has testified in substance that it is a matter of education to get the shippers back to the use of water facilities. They have become so accustomed to the railroads, and the railroads have offered such advantageous facilities of doing business from their door and delivering it to the door of the customer, etc., that it is very difficult for a boat line now to approach a shipper in such a way as to make it attractive to that shipper to put his goods in its possession.

Now, we have watched with a great deal of interest the development of this Missouri River Transportation Co. By degrees they have come to us with just

the facilities that we want and the methods of doing business that we want. The great difficulty we have had in developing the river traffic along the Mississippi is that the boat lines did not offer us, first, insured rates; second, an insured bill of lading; and they made no particular attempt to solicit the business as the railroads did. This company comes with an insured rate and an insured bill of lading, and now are attempting to give us regular service, which is of vital importance to a shipper. He wants expeditious service, but he also wants regular service, and he wants all that the rail carriers will give him so far as the protection of his goods, while in the possession of the carrier, is concerned. Those are all offered now by this Missouri River Transportation Co., and the shippers of St. Louis are extremely anxious to put themselves in a position where they can patronize such a company. And I am sure if that company can be kept in operation and permitted to develop its facilities that we can give them a large increased tonnage.

Col. NEWCOMER. Are those docks in St. Louis to be municipally operated?

Col. COYLE. Yes, sir; that is the purpose now, in addition to the 11 miles of railroad which will come into the possession of the city on the 1st of December.

Col. WINSLOW. Will that be constructed with reference to all river traffic—Mississippi as well as the Missouri?

Col. COYLE. Yes. Well, the Missouri empties into the Mississippi 26 miles above us, but these facilities will be for any boat coming there.

Senator REED. Col. Coyle, have you had any difficulty at St. Louis with reference to what was called the bridge arbitrary?

Col. COYLE. Yes, sir.

Senator REED. I am going to ask you in the form of a leading question: Isn't it a fact that because of that bridge arbitrary a great deal of industry has gone to the Illinois side of the river? At least that has been so charged and understood for many years.

Col. COYLE. Yes, that is charged; and to some extent that, I think, is true.

Senator REED. Now, if these boats were able to land the goods upon the Missouri side at the city of St. Louis proper, would that give them some advantage in the matter of rates by giving the shipper some advantage?

Col. COYLE. I do not believe it would give any particular advantage. It would avoid this—it would avoid hauling to East St. Louis and delivery there to the boat line at their docks as they now exist.

Senator REED. I am trying to get at this fact—if it is a fact—that freight rates are now so adjusted at East St. Louis as that a considerable advantage would accrue, or would it not be an advantage now to the city of St. Louis if they could secure an outlet for a portion of its goods at least at its own docks in the city of St. Louis proper?

Col. COYLE. Well, Senator, the rates now are so adjusted that they are the same from East St. Louis as from St. Louis to all western points—outside of a radius of about 100 or 150 miles.

Senator REED. Within that radius——

Col. COYLE (interrupting). Within that radius there is an additional charge.

Senator REED. There is an additional charge?

Col. COYLE. There is an additional charge that would be an advantage over us up as far as Jefferson City. The rate breaks there.

Senator REED. So that within the radius of 150 miles there would spring up an actual competition which would be beneficial to the city of St. Louis, and would help it overcome the thing that has been heretofore referred to as the bridge arbitrary, although it is now classified, I think, merely as a freight rate.

Col. COYLE. Well, there would be that difference as between the rate from East St. Louis as against St. Louis.

Col. NEWCOMER. So far as the territory of Missouri is concerned, that bridge arbitrary would be in favor of St. Louis, would it not?

Col. COYLE. That bridge arbitrary is in favor of St. Louis as against East St. Louis in the territory up to and including Jefferson City.

Senator REED. You mean that the doing away of it by the boat line would be in favor of St. Louis?

Col. COYLE. No; St. Louis has that advantage to-day, as a rail proposition.

Senator REED. Well, then, turning it around, outside of that territory of 150 miles, there is an additional charge for crossing the river?

Col. COYLE. No; the rates are the same.

Senator REED. Now, either one statement is wrong or the other, or one or both of us are confused. Within 150 miles are the rates the same from East St. Louis as from St. Louis?

Col. COYLE. No; they are less from St. Louis than from East St. Louis.

Senator REED. Which way?

Col. COYLE. In Missouri.

Senator REED. I am speaking about freight coming from the East.

Col. COYLE. Freight coming from the East, the rates are, at the present moment, slightly greater to St. Louis than to East St. Louis.

Senator REED. And they have been for many years considerably greater?

Col. COYLE. Up to 1906 there was what might be called, and was properly called, a bridge arbitrary.

Senator REED. Yes.

Col. COYLE. In 1906 the rates from the East made the same, St. Louis as East St. Louis, to and from all points outside of a radius of 100 miles. Within that 100-mile radius there was a differential in the rates from St. Louis and East St. Louis ranging from 3 cents down to a cent and one-half.

Senator REED. Now, there is just one other matter. What effort is being made to restore river transportation on the Mississippi?

Col. COYLE. The Business Men's League has been engaged in that effort for the last four years with varying success, but at the present moment we have no organized effort. There are individuals at the present moment who are projecting a steel-barge line to be operated between St. Paul and New Orleans. Their present headquarters are at St. Louis.

Senator REED. What effect would the establishment of such a line on the Mississippi River have with reference to the promotion of business on the boat line on the Missouri River?

Col. COYLE. I believe it would stimulate that. We feel this: That if we had a boat line at St. Louis we would feel the necessity of having that as an important connection for the full development of the Mississippi River.

Senator REED. Well, wouldn't the two naturally each tend to build up the other?

Col. COYLE. Most assuredly.

Senator REED. That is a somewhat involved sentence, but you know what I mean.

Col. COYLE. Most assuredly.

(Witness excused.)

Congressman BORLAND. Any further questions? If there are none, I will inquire when does the board wish to adjourn?

Chairman BLACK. I think we might continue until 12.30.

Congressman BORLAND. I want at this point to put on Mr. Jewell Mayes, the agricultural commissioner of Missouri, in regard to the agricultural tonnage and traffic and the matter of the reclamation lands between Kansas City and St. Louis, as bearing upon the tonnage of the river. I find, however, he is not present at this moment, and I will call on Mr. A. D. Spear.

A. D. SPEAR, called as a witness, testified:

Congressman BORLAND. Mr. Spear, you may state your name.

Mr. SPEAR. A. D. Spear.

Congressman BORLAND. Mr. Spear, you are the representative of the Commercial Club or Business Men's Association of Chamois, Mo.?

Mr. SPEAR. Yes, sir.

Congressman BORLAND. You are a business man and banker at that point?

Mr. SPEAR. Yes.

Congressman BORLAND. At Chamois you have got the advantage of having the two tributary rivers, the Gasconade and the Osage, to connect with Missouri River traffic, have you not?

Mr. SPEAR. Yes.

Congressman BORLAND. Now, I wish you would explain to the board the character of the traffic on the Osage and Gasconade and the direction of the movement and how it might be connected with the Missouri River navigation.

Mr. SPEAR. Chamois is located on the Missouri Pacific Railroad, which traverses the northern end of Osage County from east to west, Osage County lying on the south bank or south side of the Missouri River. Now, the Missouri River bounds Osage County on the north, affording, I should judge, about 30 miles of water front. The Osage River bounds Osage County on the west, and the Gasconade winds diagonally through our county. Now, Chamois is located about halfway between the mouths of the Osage and Gasconade Rivers. We have a rich agricultural section there and have a large flour mill at Chamois,

and we depend at that point for deliveries of grain from the banks of the Osage River and from the banks of the Gasconade River, which is brought down those rivers to the Missouri River stations at the mouths of those rivers and milled in transit to Chamois.

Now, I think that Osage County has probably more river mileage than any other county in the State; and these rivers—I speak of Osage County because I feel that our community is interested, and I speak of it as a division because that particular division, Osage County, is particularly interested in the Missouri River and the improvement of those tributaries, the Osage and the Gasconade Rivers, and because along those rivers we have very fertile agricultural lands and the population along the Osage and the Gasconade Rivers are particularly dependent upon the navigation of those streams to move their crops. The land is very fertile, very rich, and produces large crops of grain—corn and wheat, etc.—and produces it along the banks of the streams. Now, those farmers need the service of navigation upon those streams to move their crops to market, and it is not a question alone of the difference in the freight rates charged by the railroad companies and the boats, although that is an important item, but it is an important question of having the service to avoid the wagon haul necessary to get, in the most economical way, the product of those farms along the Osage and Gasconade Rivers to market, it being most economically done by harvesting their crops—for instance, wheat or corn—and placing them on the river bank and then loading them directly off the farm onto the boats, which is practically as easily done as it would be to load the grain upon wagons. Then, by that cheap transportation, the grain is floated down the river to market. And if the farmers did not have the advantage of that service it would be necessary to have that grain moved by wagons up hills and over many miles of more or less rough road to some point upon the railroad. And the same is true to some extent of this Missouri River frontage along the north end of the county. And I have talked with farmers and people interested there, who declare that if they were to be deprived of the advantage of this service it would reduce the value of their lands at least 25 per cent.

Now, that is not all. On account of the Gasconade River flowing diagonally through the county and because of the Osage River flowing on the western border, they will be highly useful in the further development of our county. Now, only about 42 per cent of the land of Osage County has been improved, and if the river navigation is to be abandoned and Osage County is to be deprived of that service, we feel that it would be a very fatal blow to the future development of that land. And because, as I have stated, we have more navigable river mileage in our county than any other county, we are more vitally interested in the improvement of those rivers probably than any other agricultural locality in the State. I am speaking purely and solely now from the viewpoint of the benefit this service gives to the farmers in the development of that agricultural area. We have about $10,000,000 worth of farming lands in Osage County and it is highly important that those lands should have the service of this navigation, not alone for reducing the freight rates, but also for giving the service that railroads can never give.

If I might be permitted, I would like to refer to another item: Some years ago the Missouri River was improved, as this board is aware, from Murrays Bend, I believe, to the Gasconade River, and points along the south bank were protected, where the river was attacking, for the purpose of straightening the channel and establishing navigable channels. Now, I figure that along the northern portion of Osage County, fronting on this river, we have an area of very valuable fertile farm lands averaging a mile in width, making probably 30 square miles of 640 acres to the mile—probably 20,000 acres of land. Now, that land was protected from erosion and it has become a permanent and fixed matter; and we figure that the value that has been derived from that protection of those lands, figuring the protection at the basis of $100 an acre, which we think is fair, has really made a benefit of $2,000,000 to the owners of that land and not alone the owners, but to the public at large, as it is interested in the conservation and protection of that land.

At Chamois and in that locality we have been desirous of having established a regular and dependable boat service. We have not got that now. We are told that it is because during a great portion of the year the water becomes so low in the channel that hitherto boats have not found it profitable; and the result has been that the merchants and the shippers have not been able to use the river as they desired, simply because the channel was not there upon which a regular and dependable boat service could be given.

Shippers and particularly merchants—for I was a country merchant for many years—about 30 years—what the merchant needs is a regular boat service, a regular schedule upon which he can depend for the shipment of his goods, so that when he places an order, for instance, in St. Louis, which is our market largely, though we buy some things in Kansas City, too, but from St. Louis more largely, he can depend upon regular and prompt service. Now, what we need is a regular and dependable boat service and we can not have that unless the channel is maintained during the whole season so that it is profitable to the boat owners; and for that reason it has not been kept up. Now, we need that service not alone as the only competition that we have with the railroads, so far as freight rates are concerned, but because along that 30 miles of Missouri River front a large sum of money can be saved annually to those farmers if they can load their grain upon barges at the river front instead of loading it on wagons and going to the expense of a wagon haul and conveying it to railroad points.

I want to call your attention to just one more thing about the Osage and Gasconade Rivers. A large proportion of the agricultural products of Osage County are floated down the Gasconade and Osage Rivers until they reach the railroad point on the Gasconade at Hermann, and there they are loaded upon railroad cars.

Now, the most economical thing to be done would be for those products brought down the Osage and Gasconade Rivers to be loaded upon barges which might be waiting there for the reception of the stuff and then carried on to destination. That would be a cheaper, more economical, and more satisfactory method of marketing the stuff. Now, during the fall of each year the water runs the lowest and that is for our section the most important shipping period of the year; and I can think of nothing that would afford a greater and more permanent advantage to the farmers and commercial business and the development of Osage County than to have an assurance that the channel of the Missouri River would in the future be maintained. We have been looking forward to that and it is a great disappointment to the farmers of our section that it is now threatened, and we take off our hats to Kansas City and her Commercial Club in taking the lead in this movement, and we simply join her in the appeal that this improvement which has promised us so great an advantage for the future be continued and not abandoned.

Congressman BORLAND. Mr. Spear, you say that Osage County—the northern portion of the county—abuts on this portion of the Missouri River which was improved from Murrays Bend to the mouth of the Gasconade.

Mr. SPEAR. Yes.

Congressman BORLAND. And those revetments do necessarily and inevitably effect the protecting and reclamation of the farm lands and riparian lands abutting on the river?

Mr. SPEAR. I assert that most positively. There are very valuable farms there that can be sold for $200 an acre now, that sold before that improvement was made for $45 an acre.

Congressman BORLAND. Now, that is the inevitable effect of the channel improvement?

Mr. SPEAR. Absolutely, because it was being attacked and swept away; and by that revetment it has been maintained and the owners, feeling perfectly secure in the permanent position of the land and their investment——

Congressman BORLAND. Now, the products of that land are directly tributary to the shipping facilities of the river?

Mr. SPEAR. Absolutely so, because they lie on the river front and what they need to have is the service of a regular and a dependable local service to carry their crops away. Now, this through boat service I do not think has been soliciting shipments from our locality in a regular way. I suppose because they have not had the time to make their schedules and do so; but what we need there is a service that will pick up and carry and handle regularly and dependably the production of those farms along the Missouri, the Osage, and the Gasconade Rivers.

Congressman BORLAND. Then it is a fact that as rapidly as the revetment progresses and the banks are reclaimed and protected, the farm land will come into a high state of cultivation, which will furnish traffic for the river?

Mr. SPEAR. It is absolutely true. It is there now. So far as the land along the Missouri River is concerned, it is in a high state of farming. Now what they need is the service. But the farmers along the Osage and the Gasconade

Rivers are shipping their stuff and have been continually shipping their stuff each fall down the Osage and the Gasconade through the local boat service given by the local boat owners there.

Congressman BORLAND. In connection with Mr. Spear's testimony I want to call attention to Exhibit 14, which appears there in the brief, which shows the surplus shipments of 1912 of all the 20 Missouri counties bordering on the Missouri River. Exhibit 14 shows the surplus shipments of agricultural products and we want to take that in connection with the statement that there are 500,000 acres of that same kind of land still to be reclaimed. What Mr. Spear says of Osage County is typical of every Missouri county bordering on the river.

Mr. SPEAR. I just want to say that what is true with respect to us is very particularly true of the north shores of the Missouri River directly across from my county in Calloway County. They have a large area of similar land with similar conditions, and they are needing it just the same as we do. I simply make my appeal on behalf of the farmers of my section and I can not emphasize too strongly the damage that will be inflicted upon the farmers of my county in their efforts for the future development of their lands and farms if this service in the future is to be denied.

Congressman BORLAND. Any further questions?

Chairman BLACK. Senator Reed, have you some questions that you wish to put?

Senator REED. No questions.

Chairman BLACK. If there is nothing further, we thank you very much, Mr. Spear.

Mr. SPEAR. There is just one thing I wish to add. I understand and we are all perfectly aware that Congress is not authorized to make appropriations for keeping water off or improving or protecting farm lands from erosion; but we down there very strongly feel that if as an incident to the establishment of a dependable channel for navigation, this land is protected and saved in this day when there is so much talk about conservation and the high cost of living, why isn't it a matter of very great congratulation and gratification upon the part not only of the owners of the land, but the country at large? And if the Government could appropriate money to put water on the arid lands of the West in order to reclaim them for agricultural purposes, why could not Congress appropriate money to keep water off of valuable agricultural lands in order to conserve them. And again let me ask this question, Why isn't it right that the Government, or why should not the Government keep the water off these valuable lands—the water of navigable streams over which it exercises an exclusive jurisdiction and control, not allowing even the State to interfere in the protection of these lands from eroding? Why would it not be proper for them to keep the water of those navigable streams off these valuable agricultural lands belonging to private owners?

Chairman BLACK. You say the General Government does not allow the State to interfere. What do you mean by that?

Mr. SPEAR. I have understood that the Federal Government exercises an exclusive control over its navigable waters and that the State could not, without securing the privilege from the Federal Government, do any work for the protection of the navigable streams, or rather the lands along them, from erosion by them.

Chairman BLACK. All that the Government does in that case is to require that the work shall be done in such manner as not to do injury. As I understand, the Government is very glad indeed to have the States assist in that.

Mr. SPEAR. There is the point. There ought to be cooperation. But if the State undertakes to carry out a scheme of improvement, it would very likely run amuck with the policies or the ideas of the improvement of navigation as adopted by the Federal Government, and perhaps would not be able to carry out an effective scheme of protection of its lands from erosion in an economical way, for the reason, perhaps, that it might be denied, in the first place, and, again, directed in such a manner as to make it too costly and too ineffectual.

Chairman BLACK. Do you know that that is being actually done in California to-day and has been done not only in that State but has been done in Florida and has been done in Massachusetts. I could go on and show that there is no difficulty at all about cooperation, if the State is willing to cooperate.

Mr. SPEAR. We have felt that in our effort to develop the great Middle West the Government, which has so wisely and generously appropriated millions for

the improvement of eastern harbors and the Ohio River and other rivers, would not be averse to giving us some assistance here in the development of the West.

Chairman BLACK. That is not the question now. The question is as to cooperation. I only wanted to correct your idea on that.

Mr. SPEAR. I understand.

Congressman BORLAND. This much is true, Mr. Spear, that with reference to the Missouri River, which is a very rapid stream and runs through soft alluvial banks, any scheme of reclamation or channel protection must be of sufficient length and sufficiently comprehensive from an engineering viewpoint to embrace more than a mere local protection of banks. In other words, if the landowners were to engage in a single county to get protection along the bank, it might not, and in all likelihood would not, correspond with the regimen of the stream above and would be liable to be torn out very soon and swept down the Missouri. I presume the Missouri River is peculiar and different from Florida or California rivers.

Mr. SPEAR. I understand that; and I only hope that a general scheme of improvement may be adopted in which the Government will lead for the protection not only of its channel for navigation, which is such an important consideration and for which we are all contending, but also of such a character that it may incidentally protect these valuable lands.

(Witness excused.)

Congressman BORLAND. Colonel, I think it would be convenient now at this time to adjourn without putting another witness on.

Chairman BLACK. We will take a recess until 2 o'clock.

AFTERNOON SESSION, TUESDAY, OCTOBER 19, 1915.

Judge BLAND. If the board please, I desire to state that the river committee that has had up by correspondence with the department the question of the river improvement, has requested Senator Reed to be present during the entire hearing to ask questions that he deems pertinent to bring out additional facts for the information of the board; so that he represents the commercial interests also.

Congressman BORLAND. Are you ready to proceed, Mr. Chairman?

Chairman BLACK. We are ready as soon as you are ready.

Congressman BORLAND. Mr. Walter Parker will please take the stand.

WALTER PARKER, called as a witness, testified:

Congressman BORLAND. Please state your name.

Mr. PARKER. Walter Parker.

Congressman BORLAND. What is your official position with the commercial bodies of New Orleans?

Mr. PARKER. I am general manager of the Association of Commerce of New Orleans. I have other connections in connection with the river development, if you desire to know them.

Congressman BORLAND. I wish you would state fully your connection with the commercial interests on the river and the traffic interests on the river in order that we may show your experience.

Mr. PARKER. I am chairman of an organization of the Mississippi Valley Commercial Secretaries who have organized for the purpose of promoting the use of navigable rivers of the Mississippi Valley. I have been on the job of getting New Orleans to take the interest that she should take to promote the use of the Mississippi River for the last 16 years.

Congressman BORLAND. Now, Mr. Parker, I will call your attention to the report of the district officer at Kansas City, section 14, in which he speaks of the present and prospective commerce on the Missouri River and on the Mississippi River, and I will get you to analyze that statement for the benefit of the board from your knowledge and experience of river traffic.

Mr. PARKER. That is the statement in which it is said that the commercial value of the river does not justify the expenditure. That is what brought me here, gentlemen, to protest, representing the city of New Orleans. We maintain that the use of the rivers is absolutely essential to every section of the river-served valley; that aside from economies that may be obtained there, the Panama Canal has robbed every common point on the rivers of the Mississippi Valley of differentials on which they had their foundation and their growth, and that some way must be found to restore the favorable position of the Mississippi Valley cities; and I mean by that the tributary cities also.

Otherwise the valley will lose many of its industries and they will move to the ports. Now, of course, while the ports want to get all the industries they can, we do not want the hinterland that we say belongs to New Orleans robbed of its industries, because we do not want it robbed of its prosperity.

Now, the Panama Canal has given a short haul to the Pacific from the Atlantic coast and the Gulf that puts the valley in the position of having to pay the cost to the seaboard in order to compete with the seaboard on western commerce, which is a differential against the valley that did not exist before. In fact, the valley had a differential in its favor before the Panama Canal was built. We maintain that the use of river routes is the only way in which the Mississippi Valley cities may secure a restoration of a favorable position to enable them to continue business to a very large territory. In fact, the markets of greatest promise in the world are Pacific coast markets, and unless the valley gets a cheap way of reaching the sea and shipside, it will be under serious handicap for all time to come. We have been on our part of the job in creating terminal facilities that will give the boats the same economy in the particular terminals that railroads have got. They have never before had such facilities. It costs a great deal more to terminal freight by boat than it did by railroad, and that, we have found, has offset the advantage of the cheaper haul by boat. So we are putting in a complete system of coordinated river-and-rail terminal facilities at very heavy expense. New Orleans has equipped herself to serve the Mississippi River Valley and to serve the cities of that valley at an expense in all of about $129,000,000.

Congressman BORLAND. What other considerations enter into successful navigation, traffic on the river, besides the mere question of channel? In other words, what facilities do shippers need so that they may make use of boats on the river, in addition to the mere fact that a channel has been established?

Mr. PARKER. First, they need an established channel, which is the duty, as we understand it, of the Government to provide. Next, they need coordinated river-and-rail terminal facilities so that freight may be brought to and from the boats without unnecessary cost. That has heretofore been frightfully expensive. Also, they need a boat system supplied with boats that are economical in their construction, in their power, and in their operation; and the boat system must be developed broadly with its lines and means of supply and means of distribution just like any other system of transportation. We do not believe that little short local boat lines will ever develop into a great potential factor in commerce; but if boat lines are run from the seaport to the head of deep-water navigation, and radiating from there are other boat lines to the tributaries, and to those boat lines come the concentration facilities of the railroads and motor roads and wagon roads, that the boat line will then become a most important economic factor in the development of commerce in the valley.

Congressman BORLAND. Has Mississippi River traffic had the advantage of those facilities in the past?

Mr. PARKER. No, sir; it has not.

Congressman BORLAND. Is that, in your judgment, what has been the matter?

Mr. PARKER. Absolutely, from New Orleans up. The facts as to the conditions at New Orleans are briefly these: The French were very strong on communal facilities. They gave the city of New Orleans public ownership of the facilities for commerce. In 1803 the Louisiana Purchase brought this port of New Orleans into the Union, and thereafter it was dominated by the American, or, speaking more properly, the English point of view, which brought about a private development such as occurred in connection with the harbor of New York, which, as you will recall, was developed by private enterprise. There arose, therefore, a conflict with referense to the improvement of the harbor of New Orleans, and no harmony of effort, and nothing could be done in the matter. There was a spirit of private development and no opportunity for public development because the private development shut it out. Then in 1906 we began the work. In 1905 we got thoroughly organized, and in 1915 we are engaged in building a system of warehouses and terminal facilities and terminal canals, and there is public development in every direction, and what is being done is being done in the highest scientific engineering manner to get at the greatest amount of economy.

Congressman BORLAND. You have a belt railway or belt canal around New Orleans?

Mr. PARKER. We have a belt railroad owned by the city of New Orleans which has reduced the cost of belting cars from a charge of $8, $10, $15, or $20 to a uniform charge of $2 per car, and the city belt railway is making money at this price.

Congressman BORLAND. That is municipally owned?

Mr. PARKER. Yes, sir.

Congressman BORLAND. And you have a belt canal also, have you?

Mr. PARKER. No belt canal. We have canals, but they do not reach the river. Last year we passed an amendment to the constitution of Louisiana providing for the opening of a canal that will ultimately canalize the city of New Orleans as the Amsterdam improvements have done for that city, and the banks have been opened to purchase, ownership, and development by private enterprises.

Congressman BORLAND. Are you aware, Mr. Parker, that through shipments of coffee, importations of coffee, have been brought to St. Louis from Brazil by water?

Mr. PARKER. Yes, sir.

Congressman BORLAND. And transferred from the ocean freight vessels to barges at New Orleans?

Mr. PARKER. Yes, sir.

Congressman BORLAND. And brought up the river in that way?

Mr. PARKER. Yes, sir.

Congressman BORLAND. Now, what, in your judgment, is going to be the effect of the opening of the Panama Canal on the Mississippi River Valley cities as compared with the Atlantic ocast cities?

Mr. PARKER. Unless there are equal water facilities afforded to both groups of cities, it will be very disastrous--it is very disastrous now.

Congressman BORLAND. Well, do you want to explain that a little further? In what way is that true?

Mr. PARKER. In this way: The valley cities were developed because of the river. No terminal facilities were put in. It being a monopoly nobody felt the need of doing anything to economize the cost of traffic. The railroads came along and built terminals, and the terminals were economic, and that factor offset the greater economy of boat traffic and the boats died.

Now, the transcontinental railroad altered the drift of commerce from a north and south direction to an east and west direction. These valley cities being in the middle of the country naturally enjoyed a rate that was less than the Atlantic seaboard rate to the Pacific and from the Pacific to the Atlantic seaboard, and under the working of that differential all these industries of the Mississippi Valley have been given a great and wholesome impulse and impetus, and they have grown.

Now, the Panama Canal has broken up the transcontinental haul across the continent, or very largely so, and ultimately will, in many respects, break it up. The route now is from the Atlantic seaboard through the Panama Canal to the Pacific. That is the cheap rate. The shipper in the valley city, in order to get the benefit of that, has got to ship his commodity to the Atlantic seaboard and reach those water carriers. Therefore, the cost of transportation from the valley city to the Atlantic seaboard is a differential against the Mississippi Valley, and that differential has put many industries in the Mississippi Valley in a very serious position. The only escape we can find is to use the all-water haul to the Gulf and in that way get the rate that will enable them to compete with the balance of the country who are being served by the Panama Canal. Now, if that is not done, I do not see how it is possible for many industries in the Mississippi Valley to maintain their position commercially unless they move to the seaport.

Col. ABBOT. Would commerce shipped from the Mississippi Valley by navigation find an advantage at New Orleans?

Mr. PARKER. Yes; that gives them the shorter direct all-water haul, which is the cheaper haul. I have here a little cartoon[1] which very well expresses those figures—simply relative, not actual--and I will file one of these.

Chairman BLACK. There is one on file now, Mr. Parker.

Congressman BORLAND. In other words, Mr. Parker, even though the valley here produces an enormous quantity of raw material ready for the manufacturer and has ample fuel, capital, and labor, it has still this transportation element against it which would militate against the growth of manufactories

[1] Not printed.

here, and instead of their being able to turn this raw material into marketable products here with local capital and local labor, it must be sent as raw material to the seaport?

Mr. PARKER. Yes, sir. Our calculation and our object have been to develop facilities that would serve the commerce of the Mississippi Valley. Now, if the commerce of the Mississippi Valley can not come to us by reason of this differential, then our position will have to be that of making an effort to attract the industries. Now, we think that our greatest future lies in the serving of the commerce of the Mississippi Valley and enabling the Mississippi Valley to use its river routes as well as railroads, so that instead of there being a monopoly of railroad transportation there will be both kinds of transportation open to that valley, and we think that the line of least resistance will be that to the seaport of New Orleans, and that by developing our port to serve the shippers of the valley we will prosper better and to a greater degree than by endeavoring to take the factories away from the interior. However, unless something is done to relieve the interior from the differential which the Panama Canal has created against it, it is inevitable that many of the industries of the Mississippi Valley will have to seek the seaboard.

Congressman BORLAND. Have you something you wish to ask Mr. Parker, Senator Reed?

Senator REED. Yes. You speak of the city of New Orleans spending, in the securing of water terminals and railroad terminals connected, the sum of $129,000,000. Do you know of other points on the Mississippi River or the tributaries thereof where large investments of that kind are being made?

Mr. PARKER. Yes, sir. Permit me to correct a statement there. That $129,000,000, the total of it, is not being spent for terminal facilities; but it is all work necessary to equip the port of New Orleans to serve the Mississippi Valley. But I wish to say that the dock board has $23,750,000 that it has not yet expended to continue its terminal work of coordinated river and railroad facilities, and the belt railway has $8,750,000 that it has not yet expended to continue its improvements.

Now, to answer the other question, Senator, Davenport is very busy on this job. Last spring they wired me for certain information concerning the commerce possible to be developed on the river, and I sent them a 6,000-word telegram giving them a complete story of what it all meant, and on the strength of that telegram, which came before the committee, they voted to build coordinated river and rail terminals. I have found that wherever we could get to the people of the Mississippi Valley the real story of what is needed in order to enable them to use the river, that they go out and act very promptly.

Now, Cincinnati, they tell me, is building two boats. St. Louis, as you have heard this morning, is busy. St. Paul is busy; Davenport is reaching out; and every city in the upper Mississippi Valley is striving to coordinate river and rail terminal facilities in order that they may be enabled to hold the business. In every direction there is a very evident desire to build coordinated rail and river terminals to enable them to use the river and the boats.

Senator REED. What, if any, advantage would there be growing out of the improvement of the rivers so that they would be navigable in view of the completion of the Panama Canal?

Mr. PARKER. Advantage?

Senator REED. Yes; what effect, in other words, has the building of the Panama Canal had on the question of river transportation?

Mr. PARKER. It has forced the issue. It has compelled the valley to use the rivers. It has made it necessary.

Senator REED. You were asked, I think, by Mr. Borland whether or not you knew of coffee having been unloaded at New Orleans and delivered at St. Louis by water. Do you know of rice or grains having been shipped from the Pacific coast and carried across by the Panama Railroad before the canal was built and being landed at the port of St. Louis?

Mr. PARKER. I don't recall that particular incident.

Senator REED. I wish you would state to the board what your judgment is with reference to the improvement of the Mississippi River, the Ohio, and the Missouri and all the other great tributaries; that is, as to each being dependent for its success upon the improvement of the others.

Mr. PARKER. That is absolutely unquestionable, Senator. The system of transportation in the Mississippi Valley is a system. It is not an isolated case. It is, beyond shadow of doubt, the most wonderful system of natural navigable rivers in the world and the most neglected now. If the board cared for me to

review why it has been neglected, according to my investigations, and why it is bound to be used again, I could go into it, but it would take 10 or 15 minutes.

Chairman BLACK. I think the board would be very glad to hear it. Is there any other question, Senator, now?

Senator REED. Proceed with your thought, and I will reach the other later.

Mr. PARKER. The city of New Orleans was founded because the French knew of only one means of transportation—that was water. They put the city there because they knew that in the course of time the valley would develop, and they put it there to serve the valley. They did what they thought was the best thing in giving to the city its public ownership.

Now, the river was a monopoly. As the valley developed the traffic was first in flat boats and then in rafts and then in steamboats, and there was no other outlet at all. The commerce had to come that way. And even with the neglect that was shown in the matter of terminals, the cities and towns of the valley developed under this monopoly. Along about 1830 the valley began to strenuously object to the cost of handling their commerce at the port of New Orleans. The commissions charged by merchants there were excessive; the cost of handling the bales and bags. In other words, they put on all the traffic could bear, because there was no other place for it to go. Cincinnati used to send flour down there and put it out on a mud bank, and it would be rained on and ruined and the fellow at Cincinnati had to stand it, and he didn't like it and nobody else liked it, and all the time they were hunting for other outlets, and in the course of time they got the canal through New York and that took care of the upper country and the lake region; and they built the Memphis & Charleston Railroad so that they could get an outlet for their cotton other than via New Orleans. So they got this monopoly of the river broken down.

We all know, of course, the long period in which the railroads used all kinds of methods to compete with the boats, because the purpose of the first railroad built and of many railroads was to tap the boat traffic. It was not the initial proposition to get new territory, but to get the business that the boats had built up and which they were not taking care of properly.

And so with the terminal facilities of the railroads and the midnight tariffs and the rebates, the boats had an awful time, because they had started out as an uneconomic proposition. They built great big boats like the side-wheelers that used to have to carry 300 tons of propeller shaft and machinery to propel themselves. That in itself is giving away a good income at $1 a ton to carry the 300 tons of machinery they had to carry. So the boat lines died. In the place of the boats there has developed a monopoly of rail transportation, and that railroad transportation naturally does not take into consideration any desire on the part of the shipper to reach the line of least resistance or a particular market he wants to go to, but it is the routing of freight according to the needs of the railroad transportation system. The shipper has no chance himself. He has to take what they give him. Now, that may be good railroading, but it is not good commerce. With the river, of course, he can take his choice, and it is that economic fact that the line of least resistance is to be opened up to the shipper that means everything to the commerce of the valley. He can use a railroad if he wants to, or he can use the river if he wants to; and in either case he can get just what he wants to use, and that is one of the great reasons, aside from the Panama Canal, why we have got to use these rivers.

Senator REED. Now, I was asking you if you know of other boats being constructed at other places for river use. Had you completed your list?

Mr. PARKER. No, sir. There is a boat now being built, a modern, self-propelled steel barge being built at Jeffersonville, Ind.; I am told by the builders that the boat will cost about $90,000. It is the first, I am told, of 38 self-propelled barges that will run on the Mississippi River and its tributaries. There are 2 boats being built at Cincinnati. We have built at New Orleans 7 boats as the start, and those boats we have found underpowered for the river, and their successors will be given ample power. There are other boat lines that I have not in mind.

Senator REED. I want to make one matter plainer, if I can, and I am going to ask it in the form of a leading question, and if I do not state it correctly, please correct me. I understand your position to be that before the Panama Canal was built and the ocean traffic from the Atlantic ports to the Pacific ports had to take the long course around South America—around the Horn—that a business institution located in the Mississippi Valley could compete either east or west because of the long ocean haul, which was as expensive

as to ship by rail from the Mississippi Valley either east or west—or approximately so; and that now that the canal is built, there is a short haul between the two coasts, and that fact gives to either coast such an advantage that the manufacturer located in the Mississippi Valley can not ship to either coast and pay the railroad rates and compete with a competitor who is located on either coast. That is your position?

Mr. PARKER. Yes, sir.

Senator REED. Now, have you figured that out so that you feel certain as to the conclusion you arrive at?

Mr. PARKER. I feel absolutely certain that the differential against the Mississippi Valley shipper, who is compelled to use a transcontinental railway, is such that he can not compete with an ordinary competitor on either coast.

Chairman BLACK. Can you give any figures on that?

Mr. PARKER. Well, here, this gives about the proportion (referring to the cartoon already exhibited to the board). This is not the rate at all. The all-rail haul from the common Mississippi Valley cities to San Francisco, in round figures, would be $2.50, as against rail-and-water haul from the Mississippi River cities by way of New York through the Panama Canal to San Francisco of $1, and against an all-water haul by way of New Orleans of 75 cents. Now, that is not the rate. That is simply the proportion. This has been figured for me by a rate man.

Chairman BLACK. Now, have you accessible or can you lay your hand upon any data which will give the rate now charged by boats through Panama Canal from Atlantic to Pacific coast and from the Pacific coast to the Atlantic coast?

Mr. PARKER. No, sir; I am not prepared to discuss technically the rates. That is a matter entirely in the hands of my traffic manager and he is not here.

Chairman BLACK. The statement, then, you made a while ago is simply your conclusion based upon your general knowledge of freight rates?

Mr. PARKER. I have studied the economic aspects of it and not the technical rate situation at all.

Chairman BLACK. Have you made any study of the question as to the practicability of operating small steamers that could engage in coastwise business—large enough to engage in the coastwise business—and to go through the canal and make the ports on the Pacific, as to whether those steamers of that class could be operated up the river, and if so, how much?

Mr. PARKER. No, sir.

Chairman BLACK. Have you made any study of the question——

Mr. PARKER (interrupting). Yes, sir.

Chairman BLACK (continuing). Of the cost of unloading freight from one boat to another at New Orleans?

Mr. PARKER. Why, under these new facilities we are putting in there we have reduced the cost of that transfer to an absolute minimum.

Chairman BLACK. Can you tell us what that minimum is?

Mr. PARKER. Well, I could not figure out. It is different on different commodities. The only way I could discuss that would be in its relation to other ports where the engineers have figured this out that we can save the ships, boats, and railroads more money in the transfer of cargoes at New Orleans than anywhere else on earth, and that is why we are putting up all this money to get those facilities and to get those economies.

Chairman BLACK. State the proportion of cost or percentage of reduction that you have been able to make by virtue of these improvements?

Mr. PARKER. Why, we expect to reduce the cost of moving commerce between the boat and the ship by probably 75 per cent; reduce it that much. In other words, in the future, with these facilities, it ought not to cost in excess of 25 per cent of the cost before we had these facilities.

Chairman BLACK. So that a river boat could be loaded or unloaded for one-fourth of the cost that we have heretofore paid?

Mr. PARKER. That would be in case where the commodity would be warehoused and handled for shipment. Where the boat came alongside the ship there would be no charge, because the ship's tackle would unload the stuff from the boat to the ship or from the ship into the boat. In other words, there is no terminal charge against lighterage, and that is what the boat would be entitled to.

Chairman BLACK. The great bulk of the goods coming by boat would have to be warehoused in order to get a cargo large enough for ocean-going vessels?

Mr. PARKER. Yes, and no, sir, too; because with the boats in dependable operation, freights of a certain character of commodities would be there at the time the ship is ready for cargo. Our system is so arranged that a ship may be loaded into all hatches from the land side and all hatches from the water side at the same time. There is complete coordination. That all depends on the river being used commercially.

Congressman BORLAND. I will say, Mr. Chairman, with reference to that, that we will have later in the hearing a coffee importer, of Kansas City, who has exactly in mind how coffee importers here, probably five or six in number, can bunch shipments and load directly from the ocean-going vessel to barges and not unload them until they get to Kansas City.

Col. NEWCOMER. Are the seven boats that you speak about being built at New Orleans self-propelled boats?

Mr. PARKER. Yes; they are prepared to take the water of the sound, but not to buck the current, though we sent one of those boats to St. Paul last summer to prove that it could be done. It moved mighty slow, but it can be done.

Col. NEWCOMER. These boats built at Cincinnati, are they all self-propelled?

Mr. PARKER. Yes; and the boat being built at Jeffersonville, Ind., is the last word in the power barge. It will be the embodiment of every economy, so the engineers advise me.

Chairman BLACK. Has this movement by river begun?

Mr. PARKER. The freight movement, in a way. We have had some barge lines started, but the equipment is not yet provided, the terminals have not yet been provided. They are building. The ports along the river are on the job; some at work and some have not voted the money yet; but you can not determine the value of the rivers for commercial purposes by anything that has gone before, because there is no equipment. It is only just now being provided. The boats and terminals are not yet complete; the channels are not yet ready.

Col. NEWCOMER. Who is building the boats at Cincinnati?

Mr. PARKER. The Cincinnati Chamber of Commerce advised me that they were building the boats. I am not personally familiar with what they are doing. I have just simply their assurance that two boats are being built there. I know nothing about it of my own knowledge. We can file a little brief on this argument—a supplemental brief.

Chairman BLACK. We will be very glad indeed to have it.

(Witness excused.)

Congressman BORLAND. Now, Mr. Chairman, in order not to break into the continuity of our plan of presentation when we reach the actual commercial situation in Kansas City and in Kansas City territory, I am going to call at this time the gentlemen from Joliet who are interested in the Lakes-to-Gulf waterway and give them an opportunity to say what they want to say on that question and on the question of waterways in general. As the spokesman of that delegation, it is suggested that I call Mr. Fred Bennett. Is Col. Bennett here?

FRED BENNETT, called as a witness, testified:

Congressman BORLAND. Will you please state your name?

Col. BENNETT. Fred Bennett.

Congressman BORLAND. Will you state briefly your official position, if any, or connection——

Col. BENNETT (interrupting). I have no special official position. I am interested in a number of manufacturing establishments at Joliet and have been very active in the work of trying to get a canal down through Illinois.

Congressman BORLAND. Now, just tell us, Col. Bennett, what is the present status and progress of that outlet through the Drainage Canal and the Illinois River.

Col. BENNETT. The State of Illinois, by vote of the people, amended the constitution providing for a bond issue of $20,000,000. The last legislature appropriated $5,000,000 of that sum for the beginning of the work of the canalizing of the Illinois River from Starbuck up to the union of the Kankakee and Des Plaines Rivers, constituting the Illinois, and building an 8-foot canal from that point up through the city of Joliet up to the end of the Sanitary Canal, which comes within 2 miles of the city of Joliet, 29 miles out of Chicago, from Bridgeport, a suburb of Chicago.

Congressman BORLAND. Has your improvement reached a point where actual traffic has begun?

Col. BENNETT. Well, of course, the traffic has been continuous on the old canal, the Illinois & Michigan Canal. That is now connected with the Sani-

tary Canal and business has been going on and one line of boats running from Chicago through to Iowa points by way of the Hennepin Canal.

Congressman BORLAND. How deep a channel will you have?

Col BENNETT. Eight feet as a minimum. Of course, in the river at points it will be deeper.

Congressman BORLAND. Approximately when will those improvements be completed?

Col. BENNETT. Of course I could not state with any sort of definiteness. The president of the board is here, but he has recently been appointed. They have begun with the engineering work and expect to begin work on the canal in the spring.

Congressman BORLAND. And the project has been financed?

Col. BENNETT. Oh, yes.

Congressman BORLAND. What is your view of the interest of those people in the improvement of the Missouri River from Kansas City to its mouth and the other branches of the inland waterways?

Col. BENNETT. We look upon it as absolutely essential to the welfare of all the system that the Missouri as well as all the others should be improved.

Congressman BORLAND. Your improvements will give a continuous waterway from Kansas City, the southwestern terminus of deep water, through to the Lakes and then to the Atlantic seaboard?

Col. BENNETT. Yes, sir. We have discussed this feature. I may be bringing coals to Newcastle, but I wish to suggest to the board that we feel that it is up to the engineers of the Army to devise a scheme by which the controlling of the water of the great Mississippi Valley shall be done for all purposes—reclamation, conservation, and irrigation purposes, conservation against floods, and improvement for navigation, and such other purposes as may arise. It seems to me that that is the way the subject should be handled, as a comprehensive scheme of handling the water in particular reaches, so that it does not tear up the lower sections of the river.

In Illinois we are already feeling the effect of the Panama Canal. Our town is a steel and iron manufacturing town. Years ago we drove the German-manufactured nails out of the Empire of Japan with nails made in Joliet. They went across the country and across the Pacific. Now the nails go to the Atlantic seaboard and around by the Panama Canal. We have found that it is cheaper to send them that way, and I might cite a number of other instances with which I am not personally familiar; but I know about that.

Congressman BORLAND. So you say that the life of the manufacturing industries of the valley depend now on the development of inland waterways?

Col. BENNETT. That is the way we feel about it. We certainly feel that the development of the inland waterways is the most essential thing not only to the manufacturers but to the entire people of the Mississippi Valley.

Congressman BORLAND. Senator Reed, have you something you wish to ask?

Senator REED. Tell the board, Col. Bennett, just what advantages the State of Illinois expects to reap from the expenditure of this $20,000,000. How are you to be benefited?

Col. BENNETT. Well, to begin with, Illinois is a great manufacturing State. Along the Illinois River from Chicago down to the Des Plaines and the Illinois are found a great many elements that go to make many articles of manufacture, especially in the vicinity of La Salle. Take out from that a distance of 16 or 18 miles and there are found more different kinds of mineral elements that go into manufacturing than any other place in the world, so far as I know. The various clays that go into the tile and pottery work, silica for glass, and various kinds of rock to make the different qualities of cement, besides the coal which is there.

Senator REED. Well, now, that relates to the natural resources of your soil?

Col. BENNETT. Yes, sir. And to that should be added transportation, and with the added transportation we feel that we will be the center of the universe, of course. [Laughter.]

Senator REED. Well, why will the building of this canal give you an advantage?

Col. BENNETT. It gives us cheaper transportation.

Senator REED. How do you know that?

Col. BENNETT. Well, I know it only by observation. For instance, from Pittsburgh to New Orleans—that is, from the Pittsburgh district to New Orleans—the rate on coal is $1.23 by rail. By water it is 8 cents a ton. That

is a pretty serious difference. On coal from the Pittsburgh district to Joliet, where I do business, it is $1.90 per ton. We can handle it by water just as soon as we get the terminal facilities, even though we pay the railway rate from the Pittsburgh district to the Lake Erie ports for $1.23 per ton. So it will make a saving of 67 cents per ton, and to a concern using two or three carloads a day it makes quite a saving.

Senator REED. What is your business? I did not catch it.

Col. BENNETT. Well, I am manufacturing matches and manufacturing gas and manufacturing machinery.

Senator REED. To what extent could the river be used if you had a regular line of boats? What proportion of the traffic would the river carry?

Col. BENNETT. Why, of course the coal—now, there are a great many different manufactured products in Joliet that would use the river.

Senator REED. How about wheat and corn and such things as that?

Col. BENNETT. Well, of course they would go through the other way on their way to Chicago, we assume. You probably would assume they would go the other way. We naturally assume that that traffic goes to Chicago and the Great Lakes, and we have maintained the Illinois-Michigan Canal on the strength of that grain traffic. The railroads always raise the rates in the fall and let them down in the spring as soon as the canal boats come along. The rates, for instance, I understand, used to be 11 cents from Chicago to Rock Island by rail in the wintertime; and the water rate from Peoria to Chicago was 6 cents, and they would drop down at once to the 6-cent rate in the summer.

Senator REED. Then the railroads would come to that 6-cent rate in the summer time when you had water transportation?

Col. BENNETT. Yes, sir.

Senator REED. So that you figure that if you had water transportation restored you would make this enormous saving directly in freight rates?

Col. BENNETT. Yes, sir; absolutely. Of course, it is particularly true in Joliet, because the lake vessels can come right up to the north end of Joliet. In fact, one of the concerns I am interested in has 1,300 feet of dockage on the Sanitary Canal now.

Senator REED. Have you studied the question as to your ability to ship down the river and through the canal, reaching the Pacific coast and South American ports, and the advantages that would come from going on that route?

Col. BENNETT. Only on general principles.

Senator REED. Well, have you given it thought?

Col. BENNETT. Yes, sir; some thought; but I would not want to be definite on it because I have no figures that would satisfy myself, even.

Senator REED. Well, will you give the board the benefit of your consideration?

Col. BENNETT. Well, there is no doubt but what the water traffic from here on via New York is not natural. To New Orleans from Joliet is not so far by many miles as we are now shipping to New York and sending to the Pacific coast through the Panama Canal our manufactured goods.

Senator REED. What do you think is necessary to be done in order to restore the river traffic so that it is practicable and up to date and able to maintain itself and give this reduction in rate? What is necessary to do that?

Col. BENNETT. Well, I feel that there ought to be a comprehensive and uniform consideration of all the tributaries of the Mississippi River, and, I look to the intelligence of the engineers of our Army to produce that, because I believe they know a great deal more about it than I do.

Senator REED. You people in Illinois have been enough interested in water transportation to vote $20,000,000 of bonds?

Col. BENNETT. Yes, sir.

Senator REED. And let me ask one further question. Did Chicago not contribute something like $80,000,000 to the canal projects there?

Col. BENNETT. It is not so much as that—$50,000,000, I think.

A VOICE IN THE AUDIENCE. Eighty-seven million dollars.

Col. NEWCOMER. I will ask you if there is any boat line operating out of the Illinois River now toward New Orleans? I have understood there was a steamer that started in recently.

Col. BENNETT. Yes; there was a boat line; and then there was—I think there are more lines out of Peoria that go down. They may not operate any farther than St. Louis; I am not certain about that. I would not want to state, for I don't know of any line as such. There may be a single boat. I know the *Swain* goes up and down.

Congressman BORLAND. Col. Bennett, the reason that Illinois has contributed out of State money to the Drainage Canal and Illinois River projects is because they have a State-improvement scheme, and having control of that their purpose is to improve the Drainage Canal and the Illinois River for the purpose of power development of the State?

Col. BENNETT. Yes, sir.

Congressman BORLAND. And they are putting State money in because there is a direct return to the State?

Col. BENNETT. Yes; there is a 71-foot fall between Lake Michigan and———

Congressman BORLAND. And then you have got a return direct to the State from it?

Col. BENNETT. Yes, sir.

Congressman BORLAND. And there is no parallel between the Mississippi and Missouri Rivers in that respect?

Col. BENNETT. No, sir; because between Lake Michigan and still water at La Salle there is something like 110 feet fall, I believe.

A VOICE. But the last project has no water power connected with it.

Col. TAYLOR. You speak of the Illinois and Michigan Canal. Has that canal been used lately as a practicable commercial proposition?

Col. BENNETT. It has lately; but there was an interim when it was not.

Col. TAYLOR. Well, was it used this last year?

Col. BENNETT. There was a line of boats that used it for their barges going up and down.

Col. TAYLOR. What depth of water has it?

Col. BENNETT. Four feet eight at a minimum.

Col. TAYLOR. They actually have that now?

Col. BENNETT. They maintain that. Occasionally where creeks flow in they will get a deposit and they dredge it out or take it out when the canal is dry.

Col. NEWCOMER. That line of boats is a through line engaged in transporting salt?

Col. BENNETT. Yes; well, we call it the Salt Line. They handle salt one way and lumber and grain the other way. We call it the Joy-Morton Line.

Col. WINSLOW. I understand you to say they send coal from the Pittsburgh district to New Orleans at 8 cents or 80 cents?

Col. BENNETT. I understand 8 cents.

Col. NEWCOMER. That is a mistake. They can not do anything like that.

Col. BENNETT. Well, with a multiplicity of barges, with one steamer behind. I know the difference between Joliet and Pittsburgh absolutely, because I am in the business; and I understand that is true with reference to that rail rate of $1.23 to New Orleans. I do not mean to say that it is true to-day, but within the last two or three years, that they handle it at 8 cents a ton by the use of big flotillas of barges, using one steamer behind as a guide, and that they put it down in New Orleans for 8 cents.

Col. NEWCOMER. Well, that is a mistake.

Col. BENNETT. Well, I apologize if I am mistaken, but I do not think I am.

(Witness excused.)

Congressman BORLAND. I will call on Mr. E. L. Platt, of St. Joseph.

E. L. PLATT, called as a witness, testified as follows:

Congressman BORLAND. I understand your delegation have to leave at 4 o'clock or thereabouts. Would you like to be heard now?

Mr. PLATT. I would like to read a short brief that we have, prepared by the Commerce Club, setting forth concrete facts, which will not take me five minutes to read—just a short brief, and I would like to read it.

Congressman BORLAND. Just a moment. I will ask you to state your full name.

Mr. PLATT. E. L. Platt.

Congressman BORLAND. And you represent the Commerce Club of St. Joseph?

Mr. PLATT. Yes, sir. Mr. W. E. Spratt, president of the club, was to come, but it has been impossible for him to do so, and he has asked be to read this brief.

Congressman BORLAND. I understand there are nine in your delegation, and you can add to the records their names.

Mr. PLATT. Well, you have a list of them, Mr. Borland.

(Mr. Platt here read the paper referred to.)

Mr. PLATT. I want to say, Mr. Chairman, that coming down here we had with us the traffic manager of one of our large wholesale houses, and I ex-

plained to him this saving of freight was 20 per cent, and he informed me that if he could get a 10 days' service out of St. Louis and a saving of 20 per cent on the present freight rate, his firm alone would save over $10,000 a year. Now, that is one item from one firm. I likewise talked with the treasurer of another wholesale house, who confirms that statement in a general way, and said that each one of those houses could save from $12,000 to $15,000 a year on a 20 per cent saving in freight if we had 10-day delivery out of St. Louis.

Now, this is not in the report, but I believe it is apropos to say that while this commission is supposed to act technically upon this question from a navigation standpoint, I think the protection of the river banks and the conservation of the ground is a problem that you people have got to enter into in settling this question. I believe that public opinion in our section is crystalizing around a definite propaganda of bank protection and conservation; and I believe, as one of our party said, that the value of the wheat and corn that has been wasted by going down this river in 10 or 15 years would pay for the entire project. Now, those matters are not directly pertinent, but they are indirectly pertinent and questions which I believe this board is going to consider. I am not going to dwell on that point, but I think it is vital for this board to consider the question of saving these banks and saving this land, and, though I will not say anything further, I wish to assure you that I hope it will be brought about.

Congressman BORLAND. Any questions that the board would like to ask?

Chairman BLACK. I believe that is all.

(Witness excused.)

Congressman BORLAND. I desire to call J. W. Brockett, of St. Joseph, who is a member of the St. Joseph delegation, but I believe he is not present just now, and I will ask Mr. McVan, of Omaha, to take the stand.

E. J. McVAN, called as a witness, testified as follows:

Congressman BORLAND. State your name, please.

Mr. McVAN. E. J. McVan.

Congressman BORLAND. You are the traffic commissioner of the Commercial Club of Omaha?

Mr. McVAN. Yes.

Congressman BORLAND. How long have you been connected with and what has been your experience in the line of traffic work?

Mr. McVAN. I have been directly connected with the various commercial organizations of Omaha for the past 11 years in traffic capacities, and prior to that time I spent about 17 years in the railroad business.

Congressman BORLAND. Are you employed by the commercial bodies there as their expert traffic man?

Mr. McVAN. As their traffic man.

Congressman BORLAND. That is your profession, is it?

Mr. McVAN. My profession is that of the law, but I have some knowledge of traffic matters.

Congressman BORLAND. Your work in connection with the commercial bodies up there is looking after these traffic matters?

Mr. McVAN. I look after their traffic matters.

Congressman BORLAND. And you are familiar, then, with the traffic conditions of the Missouri Valley, including Kansas City, Omaha, and St. Joseph?

Mr. McVAN. Yes.

Congressman BORLAND. And you are familiar with the effect upon railroad rates of water competition, actual and potential?

Mr. McVAN. Yes; in a general way.

Congressman BORLAND. I would be glad to have you, not being an expert along that line myself—I would be glad to have you present in your own way in a connected manner the interest that the commercial bodies there have in the question of river navigation and its effect upon the rail rates, particularly in view of the completion of the Panama Canal.

Mr. McVAN. If the board please, I came here to present to you such facts as we had available, with reference to the actual commerce now existing at Omaha, and to give you such conclusions as we might of the potential commerce that might be offered in the river was made navigable from Omaha south. There is now no commerce on the river between Omaha and Kansas City, therefore all our information is as to the facts we have been able to ascertain of the potential commerce, because there is no actual commerce.

In a recent proceeding before the Interstate Commerce Commission there was introduced as an exhibit by one of the railroads statistics showing the number of cars moving from various Missouri River points to the East and to the Southeast, and from that exhibit, which was, if I recall it, introduced by Mr. Kimball, of Kansas City, and the proceeding in which it was introduced was Investigation and Suspension Docket No. 555, that is the Interstate Commerce Commission serial number—from that we expect to show that the total of the various commodities, including wheat, corn, oats, rye, barley, flour, mill products, packing-house products other than fresh meats, such as lard, tallow, and other similar packing-house products; hay, broom corn, zinc smelter, and salt, was 43,667 carloads, the statement having been made up on the number of carloads and not on the number of tons.

Now, in regard to that statement I want to say that there appears to be a radical discrepancy between the number of cars reported by this exhibit as having been forwarded from Omaha and the number of cars that were actually forwarded on the report of the Omaha Grain Exchange, which is compiled from railroad sources. The latter report of the Omaha Grain Exchange is for the period the calendar year 1914 and it shows shipped to all points from Omaha 67,000,000 bushels, in round numbers, of the grain mentioned in Mr. Kimball's exhibit.

I reduced the number of million bushels of corn to carloads, based on the computation contained in the same record, approximately 33 tons to the car, and that would show that the amount of corn forwarded, according to Mr. Kimball's report, was 2,907 cars, which was not more than 10 per cent of the actual amount forwarded. In other words, in round numbers, there were 32,000,000 bushels of corn shipped out of Omaha during the calendar year 1914. A number of those cars went through to destination and were probably not included in Mr. Kimball's report, but not any considerable percentage, and therefore I am at a loss to understand the great discrepancy in these figures, as given in that report, of the tonnage forwarded by all railroads, and these figures obtained from the same source and reported by the Omaha grain men.

I may say that I spent three years as secretary of the Omaha Grain Exchange, and am responsible for compiling their reports, and am familiar with the source of their information, and I think it is very correct.

Therefore, it may be stated that there is a potential tonnage for the water route from Omaha, if it were possible to transport it by water, of 67,000,000 bushels. Reducing that to carloads, figuring 1,000 bushels as a car, we would have 67,000 carloads shipped out of Omaha last year, of a character of commodity that is peculiarly and has always been peculiarly a commodity carried by water. It is susceptible of being handled in such a manner as to make it a very desirable water trade. And that is one item. I give this explanation to explain my doubt of the correctness of the 43,500 cars reported by Mr. Kimball, and I think it is away below the total actually shipped from that point.

And I may say this further, speaking for the State of Nebraska and with respect to the tonnage shipped from Omaha. Of course the State of Nebraska is a great grain-producing State, and there are many millions of bushels of grain shipped from Nebraska which would be available in any computation of water-borne traffic—potential traffic—which would not go through the city of Omaha or be handled in its markets.

For example, this 32,000,000 bushels of corn shipped out of Omaha would represent perhaps one-third of the corn produced and shipped out of the State during the same year. We estimate that perhaps 25 to 35 per cent of the corn shipped out of the State is handled through the Omaha market and dealt in upon that market, so that I would like to have you bear in mind all the time that in giving figures for the city of Omaha we do not exhaust the possibility of potential traffic that would be available if we could get an opportunity to transport it by water, and that the actual figures of what tonnage would be available is very much larger, by reason of the entrance into our cities of other markets like St. Louis, Chicago, Nashville, and Memphis for the direct purchase of grain. Even Kansas City is able to come into Nebraska and purchase grain, even some kinds of grain on the Omaha market, and ship large quantities to Kansas City. So that the Omaha shipments do not exhaust the potential shipments of grain by any means.

The next item we took up was one which was also made available to us from the same source—that is, the testimony of the railroads in this proceeding of which I have given the number—that is, the soft-coal tonnage, the

bituminous coal tonnage moving to Omaha. And there, in saying Omaha, I include South Omaha, which is now a part of the municipality of Omaha, and the city of Council Bluffs, Iowa, which is just across the river from Omaha, and which is a part of the commercial city, although politically divided from it. We have much the same situation there that exists at cities on either side of a river which are dealt with in all railroad computations as a unit, and the figures as to which are always produced as a unit, the rates being the same, and they being treated as an Omaha group.

The soft-coal tonnage coming into Omaha and Council Bluffs, based on the estimate of the railroads themselves, was 620,100 tons. That coal is produced at the mines in southern Kansas, central Missouri, and in southern Illinois, except for a very small amount which originates at the Iowa and Wyoming mines; that amount, however, is not such a percentage of the whole that it need be considered. It may be said that the coal originates in southern Illinois, central Missouri, and southeastern Kansas, and based on the experience of handling coal from the mining section upon the Lakes, we anticipate there would be do difficulty in securing that traffic to the water, if we had water transportation for it. That is 620,000 tons.

We also had a proceeding before the commission in which the railroads gave figures on the amount of hardwood lumber, which is used very largely in Omaha and which originates in Arkansas, Missouri, Louisiana, Texas, and a small extent in Mississippi, which came to Omaha. The total of that tonnage forwarded to Omaha during the year covered by the estimate, 1914, was close to 20,000 tons. Nearly all of that would be available for water transportation because of the fact of its being produced in the lower Mississippi Valley and usually close to navigable streams.

In addition to hardwood lumber there is a large amount of yellow-pine lumber bought and sold in Omaha, and from the same railroad source, covering the same period as hardwood lumber, there came to Omaha during the same time 72,500 tons of yellow-pine lumber. The bulk of that lumber originated in southern Arkansas, eastern Texas (the extreme eastern part), and northwestern Louisiana. This also would be available for water transportation if water navigation were possible.

In connection with that lumber, and our feeling about the necessity for obtaining water transportation on it, I may say in passing that during my experience in connection with rates, I know that a very considerable tonnage of this yellow-pine lumber was transported from the points of production to Omaha. We will fix the period as 1905, at 18 cents a hundred. The present rate on that lumber is 25 cents a hundred. I am now engaged in defending a proceeding brought by the railroads to increase that to 26½ cents a hundred so that within 10 years we have had an increase in that particular rate from the actual figure of 18 cents (although the open-tariff figure was 23 cents, and I say that so that I may not be contradicted by some one referring to the tariff) to 25 cents, the present rate. And if we are not successful in the proceeding we are now defending, which I have referred to, the rate will be 26½ cents a hundred.

Just to recapitulate briefly, the outgoing tonnage on Mr. Kimball's statement amounts to 43,500 cars with the qualification I put on it; and the inbound tonnage, made up in large part of bituminous coal, aggregated 12,700 tons. And I want to say in that connection that these figures take no account of the movement of iron and steel from the Pittsburgh district and from Chicago-rate points, which is very large, and much of which could be handled by water. We have no figures on that later than 1906, and those figures were contained in a statement which also showed Kansas City and St. Joseph, and we deemed it best to submit those figures to Kansas City and to permit of their being included in the Kansas City brief. So that you will have before you in that brief the figures including Omaha's receipts on all classes of merchandise for the year 1906, and I would like to have you read those figures with this idea in mind, that during the 10 years past since those figures were made up, every business that was represented in that tonnage has grown very largely, so that you might put a considerable percentage of increase upon those figures and be within the bounds of reason.

Now, I have been asked the question, if I recollect it correctly, about the effect of the present situation, particularly with reference to the Panama Canal. Was that your question, Mr. Borland?

Congressman BORLAND. Yes; that was the question.

Mr. McVAN. I may say with respect to that that I am saying this more from a consideration of a traffic experience and an experience with rates and tariffs and commerce conditions which cause railroad tariffs to be made, rather than from any actual facts that I may be able to present to you, so that you must take it as taken from observation rather than statements of fact.

The immediate effect of the opening of the Panama Canal was, of course, as all of you gentlemen know, to put in service between the Atlantic seaboard and the Pacific seaboard a material increased tonnage of vessels, and also, as a matter of course, to produce rates that were lower than any rates that had been offered before, and without the objection that there was to the previous freighting facilities, which were afforded mainly by the American & Hawaiian Steamship Co., operating over the Tehuantepec route, which made necessary a transfer of shipments en route. So that when the Panama Canal was opened they had that line of transit between the Atlantic seaboard and the Pacific seaboard, an increased number of vessels, and a material lessening of the water rates offered for large consignments, in fact, upon nearly all manufactured articles that might be transported by steamship.

In order that you may understand the situation, the transcontinental railroads concerned immediately made application to the Interstate Commerce Commission, under the fourth section of the interstate-commerce law, for the exercise of the right to reduce their rates from the Atlantic seaboard to the Pacific seaboard to meet that competition, which law places that in the discretion of the commission to grant. They immediately applied for that right to reduce the rate and there have been ever since hearings in progress on that subject, and one or two decisions have been made, and a number of those tariffs have gone into effect, so that to-day, under the new conditions, we here in the center of the country have for the first time a situation where the rates by the rail lines, for the longer haul of 1,000 or 1,500 miles to the Atlantic seaboard and thence by water transportation through the canal to the Pacific coast ,are less than they are from the intervening cities in the valley of the Missouri River particularly by all rail to the Pacific coast. That is not only true of one section in the West, but of California, Washington, and Oregon, and we feel that more upon the eastbound commodities than the westbound commodities, because they are directly handled by our merchants and distributed by them to the large territory surrounding us.

The making of these rates to the Atlantic seaboard has, of course, affected the rates to the Gulf ports. The making of lower rates to Gulf ports—New Orleans, for example—than to Chicago, Kansas City, and Omaha enables the laying down of these products in the hands of our competitors at much less freight cost than we can do by direct rail transportation. And of course there is a redistribution of the rates, where they enjoy that situation, and we feel the effect of that, and, summing it all up, it amounts to this, that we must have river transportation, and we have felt in Omaha, after studying the situation very carefully, that our only hope of relief from the situation produced by the opening of the Panama Canal is the resumption of traffic upon the Missouri River, so that we may obtain the benefit of water transportation over that route in connection with the water transportation to the canal.

Congressman BORLAND. Mr. McVan, right at this point, not to interrupt your line of thought, the Panama Canal was opened the 1st of August, 1914, and has now been open a little more than a year, but part of that time it has been closed on account of slides. Also during that year there has prevailed the war in Europe, which has materially reduced the number of vessels and the tonnage available for that water transportation, and the close of the war in Europe will release a large tonnage which will be available for coastwise transportation through the canal. In other words, the acute situation from the opening of the canal has not come, even though the canal is open, but it will come with the restoration of peace and the increase of tonnage moving through the canal. Is not that the fact about the matter?

Mr. McVAN. Yes; that is a necessary deduction from the facts. Of course, what I have had to say has been with reference to such observations as we have given to normal conditions, and I have not had in mind any abnormal conditions such as the war. It is true that last year we were confronted with this situation of the reduction of rates, and, notwithstanding the present abnormal situation as to the number of bottoms available for tonnage, we have the situation presented by the insistent demand of the railroads for protection against the rates quoted by the boats, even though there may not be boats enough to carry the traffic.

I was in Chicago about 10 days ago at the proceedings under the fourth section of the interstate commerce act, where the railroads were insisting on additional authority from the commission to still further reduce many rates which they had theretofore reduced materially, including particularly, as I recall it, a rate of 55 cents, which they purposed to put in effect from the Pittsburgh district to the Pacific coast on all of a long line of iron and steel articles manufactured in that great district. That is without reference to any possible condition at the present time as to ships available for tonnage. That condition is a condition of rail rates which the railroads are insisting is forced upon them by the quotation of rates by existing ship lines, and they are asking authority to make still lower rates than the commission has allowed them to make.

Congressman BORLAND. Your point is that the railroads are now asking the Interstate Commerce Commission to allow them to meet the condition brought about by cheap carriage through the Panama Canal?

Mr. MCVAN. Yes, sir.

Congressman BORLAND. And that, if the tonnage through the canal is increased by the close of the war in Europe, that acute condition will be increased?

Mr. MCVAN. Yes; the railroads have now been granted by the commission a large measure of relief by being allowed to reduce many rates, and yet they are now asking for the right to make further reduction to meet a condition which has arisen since the first condition arose.

Congressman BORLAND. I understand it to be a fact that on a large tonnage of surplus agricultural products produced in Missouri, Kansas, and Nebraska there is a possibility of its moving eastward to market, including Kansas City?

Mr. MCVAN. Yes.

Congressman BORLAND. Some may move eastward through Omaha, some through Atchison, and some through Leavenworth?

Mr. MCVAN. Yes; the rates are all so adjusted that that may be done.

Congressman BORLAND. And the rates are so adjusted that the surplus agricultural products between the Mississippi River and the Rocky Mountains have a choice of gateways crossing the Mississippi River?

Mr. MCVAN. Yes; that is true.

Congressman BORLAND. And that being true, the reduction or regulation of rates between the Mississippi River and Kansas City would have an effect on all tonnage originating between the Mississippi River and the Rocky Mountains moving eastward?

Mr. MCVAN. Yes, sir; it would, unquestionably.

Congressman BORLAND. Have you given in any detail the present rail facilities and their adequacy to handle the growing traffic of the agricultural States?

Mr. MCVAN. No; I have not gone into that, and I want to say a word about that.

In addition to my traffic experience of 11 years, with the actual handling of traffic problems in this part of the country, I have been, as I have said, a railroad employee for 16 or 17 years before that, and have been during those years in active touch with the handling of traffic and the conditions arising from time to time during that period. And I want to say, and I can not emphasize it too much, that I honestly believe, based upon that long observation, that the railroads have about reached the limit of the tonnage that they can handle with their present transportation facilities. And they have themselves practically admitted that is true, especially in this proceeding I have referred to which was practically a demand of all the western railroads for a further large increase in rates in order to permit them to get additional money to bolster up their credit, as they said. I am trying to make this presentation as much like theirs as I can, and I think I am giving it just as presented by them to that commission; they wanted more money in order to bolster up their credit, in order to make those extensions to their present transportation machinery that they regard in their judgment as absolutely necessary to care for the increase in commerce which they see already in sight.

Congressman BORLAND. Now, right on that point I want to ask you this question. You have probably received, through your office, a circular of the Interstate Commerce Commission, dated October 7, 1915, in which they speak of the annually recurring car shortage in this territory?

Mr. MCVAN. Yes, I have received that.

Congressman BORLAND. That circular of the Interstate Commerce Commission just referred to is set out at page 98 of the brief, and I call the attention of the

board to that circular, in which they advise shippers in this territory to release cars at the earliest possible moment and not to hold them, in order to facilitate the movement of commerce.

Mr. McVan. That is, in effect, the essence of their suggestion. It is a suggestion, and not an order.

Congressman Borland. But it indicates the situation, which is that of a car shortage for the handling of commodities in this district?

Mr. McVan. That is true; and that is rather singular, in view of the fact that business is not by any means at high tide just now. But there is being felt a sufficient car shortage in this section that the commission has sent out this warning, which, by the way, is an annual warning. They have occasion every year to send it out, and the occasion of their sending it out is the receipt by the commission of large numbers of complaints from people who are not able to get cars for handling goods.

Chairman Black. Was that not caused in a large measure by the use of cars for storage?

Mr. McVan. No, not entirely. There is in effect a very drastic demurrage charge for keeping cars over the free time of 48 hours, and while there are some who would rather pay the charge than unload, there has been a persistent effort to cut down what is known as car detention, and the last figures I saw on that showed a very small amount of car detention. I do not think any part of the car shortage in this district could be ascribed to that. I think two facts have had to do with that; first, the railroads, in anticipation of a very large movement of grain this fall, stored empties generally west of the Mississippi River—an unusually large number. On account of the conditions—market conditions—which had nothing to do with railroad matters, the movement of that grain has been delayed to an unusual degree, so that there is probably a great number of cars at that end for which there has been no loading for the East, and that has produced the stringency in the number of cars coming to the West. So I say that the car shortage has come from the unusual movement of cars to the West to provide for the movement of grain, which has been delayed.

Congressman Borland. Mr. McVan, it is necessary and will be necessary in the immediate future for the railroads in this immediate territory to increase their facilities?

Mr. McVan. It will undoubtedly be so, unless some relief is obtained for the railroads by the use of other transportation.

Congressman Borland. And most of the railroads that are now single track will in the next decade have to be double tracked?

Mr. McVan. Yes, that is true. The Chicago Northwestern is now double tracked from Chicago to Omaha, and the Chicago, Milwaukee & St. Paul are making a double track, and other railroads are going to.

Congressman Borland. And that capital for increasing the facilities of the railroads must ultimately be paid for by the shippers?

Mr. McVan. Well, they must ship enough to justify that expenditure of capital.

Congressman Borland. So we are discussing whether the Government shall expend $13,000,000 to complete this project under way, or whether the railroad facilities are now adequate, or can be made adequate for the use of the people; that is one of the propositions involved?

Mr. McVan. Yes, that is one of the propositions involved, and it has seemed to me, from my observation of the situation, that the better solution would not be the solution proposed by the railroads in their recent proceeding before the Interstate Commerce Commission, namely, a general advance in their rates to procure an additional revenue, to give them additional credit, but it would be a provision for a similar separation of tonnage in this country that there is in the old country, and by that means to relieve the railroads in their present plight of handling the rough commodities, such as the raw materials, the heavy freight—ores, coal, and so forth—and allow them to use their present machinery to a more unlimited capacity in handling the finished products, merchandise, and so forth. I think that would be infinitely better than the scheme put up by the railroads—the enlargement of their credit for obtaining money by increasing our freight bill throughout the United States.

Congressman Borland. On that point you are aware, of course, that the car shortage and the heavy movement of traffic eastbound from this territory comes at crop-moving time, when the supplies of surplus crops move eastward to market?

Mr. McVan. Yes, I am aware of that.

Congressman BORLAND. And that that is the time when the river channel of transportation is at its lowest stage as to water, and that is when the improvements on the river would be absolutely necessary, and that is the time when the railroads would have the most relief, if the channel of the river was made permanent?

Mr. MCVAN. Yes, sir; not only because that traffic is eastbound at that time, but the westbound movement of the fuel supply for the winter is taking place at the same time.

Congressman BORLAND. And at that particular time the river is usually at its worst stage—in its natural condition—and needs a permanent 6-foot channel at that time of the year?

Mr. MCVAN. I accept your statement on that. I am not much of a riverman.

Congressman BORLAND. We are familiar with those conditions down here and will cover that in another way. If there are any further points not yet covered you may proceed.

Mr. MCVAN. I think I have covered the ground as fully as may be.

Congressman BORLAND. Mr. Sangster, who is the traffic commissioner of the Kansas City Commercial Club, wants to ask a technical question of you.

Mr. SANGSTER. Mr. McVan, with respect to the traffic along the upper reaches of the Missouri, along the line of the testimony you have given with regard to lumber, grain, and so forth, I want to ask you, from your experience with the Omaha Grain Exchange, as secretary, and your long association with traffic matters in this territory—in the Missouri River territory—whether it is not a fact that a very large percentage of the coarse-grain movements to the Kansas City grain market do not come from a territory—it comes through Omaha and Council Bluffs, probably—but from a territory from which the rates are based upon Omaha?

Mr. MCVAN. That is true.

Mr. SANGSTER. Would you accept, and can you affirm the testimony I gave in the western rate lines hearing, I. C. C., Docket No. 555, that over 50 per cent of the coarse grain received at the Kansas City market, including corn and oats especially, come from the territory in Nebraska, western Iowa, and South Dakota, and from Omaha and Council Bluffs where it had been previously concentrated?

Mr. MCVAN. That had been previously concentrated at Omaha?

Mr. SANGSTER. Yes; from those markets, and from that whole territory upon which the rate is based on Omaha?

Mr. MCVAN. Is it your question that 50 per cent of the share of Kansas City comes from there?

Mr. SANGSTER. Yes, of coarse grain; can you affirm that?

Mr. MCVAN. Speaking in a general way, I would say that it is reasonable to believe that the percentage was greater, for the reason that the production of coarse grain, the surplus production of coarse grain of that section, is in a sort of natural funnel, with its small end at Omaha, and that being where the flow of that product necessarily comes as a matter of rail handling, and it would move through Omaha and Council Bluffs. Whether so large a percentage of the Kansas City receipts are actually marketed and rehandled there, I could not say, but I will say this, that I think fully 50 per cent or more of such products would pass through a funnel formed by those railroads that concentrate at Omaha and Council Bluffs.

Mr. SANGSTER. Just a little more to the point; is it not a fact that there are extraordinary large elevator storage facilities at Omaha and Council Bluffs for the handling of grain?

Mr. MCVAN. There is more than 7,000,000 bushels elevator storage capacity.

Mr. SANGSTER. And is it not true that those facilities are largely owned by concerns having line elevators along the railroads, forming a sort of tributary through which this grain is drawn to Omaha and Council Bluffs?

Mr. MCVAN. To some extent that is true.

Mr. SANGSTER. All of which would tend to concentrate the grain at Omaha?

Mr. MCVAN. Yes. I do not want to be understood, Mr. Sangster, as declining to accept your statement. I think it is measurably true, but I simply want to differentiate, in my answer, between the grain that is rehandled on the Omaha market, actually handled there, and the grain that comes through without such handling.

Mr. SANGSTER. Is it not true that there is a big movement in grain handled both ways, destined to Kansas City, and shipped out of here?

Mr. MCVAN. Yes.

Mr. SANGSTER. Both direct from the railroads in that territory to Kansas City, and also handled through Omaha and Council Bluffs?

Mr. MCVAN. Yes.

Mr. SANGSTER. And is it not true also that the rates upon all grain are based on Omaha, from northern Nebraska, South Dakota, and western Iowa?

Mr. MCVAN. As to inbound rates to Kansas City, I think that is measurably true.

Mr. SANGSTER. So the rate from Omaha to Kansas City would lend itself naturally to the traffic that is made free there in a transportation sense destined to Kansas City?

Mr. MCVAN. Yes; all grain moving from Omaha to Kansas City would be potential water traffic, if there was water traffic.

Congressman BORLAND. Senator Reed, have you any questions to ask the witness?

Senator REED. No.

Mr. MCVAN. I just want to add a little in answer to a question that some member of the board asked of a previous witness as to the ordinary rail time between the Mississippi River and Kansas City. It is ordinarily delivered upon the second morning after receipt by the railroad. For example, freight leaving the Mississippi River on Monday evening would ordinarily be delivered at the Missouri River on Wednesday; that is approximately correct merchandise time and might be fairly relied upon except under extraordinary conditions. From Chicago, you would have to add something to that.

Congressman BORLAND. On that point, what would you say about the statements of Kansas City shippers who buy their goods in the East, that come from east of the Illinois and Indiana line, that it has taken as long as 12 or 15 days for it to come to Kansas City?

Mr. MCVAN. That is unquestionably true because there would be many reasons why the transit of those goods would be interrupted, which would not apply in the other case.

Congressman BORLAND. So you are not taking into consideration the movement of general carload through shipments from the East?

Mr. MCVAN. No, sir; only such freight as is tendered to the railroads at St. Louis and destined to Kansas City. The business east of the Indiana and Illinois State line may, for example, go into the Chicago yards and stay around there four or five days, and I do not have such shipments in mind. I was just voluntarily answering the question.

(Witness excused.)

Chairman BLACK. I will make this announcement at this time: The board now expects to sit continuously until 6 o'clock and then take a recess until 8 o'clock, and have an evening session beginning at 8 o'clock and continuing as long as we can keep awake; and then start in at 9 o'clock in the morning.

Congressman BORLAND. These gentlemen of the Ray County delegation must leave at 6 o'clock, and we will now call Mr. Mayes with regard to the interests of Ray County.

JEWELL MAYES, being called as a witness, testified as follows:

Congressman BORLAND. Your name is Jewell Mayes?

Mr. MAYES. Yes, sir.

Congressman BORLAND. You are secretary of the State Board of Agriculture of Missouri?

Mr. MAYES. Yes; and I speak as a citizen of Ray County.

Mr. Chairman and members of the board of engineers of the War Department, in response to the request of the local engineer in charge, Lieut. Col. Herbert Deakyne, for specific statements in this hearing, I beg leave to state, rather to read, specific statements containing certain definite figures as to Ray County, of which I am proud to be a citizen, the third county from the west down the river on the north side of the river. And I will read, Mr. Chairman, to the point.

(Mr. Mayes here reads paper, which is filed with the secretary of the board.)

Col. WINSLOW. Has the improvement of the river so far done had any effect upon property values, upon the land values in the neighborhood?

Mr. MAYES. My observation is that it has developed in agricultural production, its development in agricultural production has increased, and the logical value of land is based upon its productive value. As the river is improved, making it possible for the owners to levee and drain their land, they have done so, and that has increased production. I could not say that the improvement of the river has actually increased the value of the land, but

it has resulted in increased production of agricultural products, and the land, of course, finally increases in value.

Col. WINSLOW. Then, as an indirect result, it does increase its value?

Mr. MAYES. Yes.

Col. WINSLOW. We had estimates given before lunch by one gentleman as to the increase of land value because of river improvement in the neighborhood of the Osage. Can you give an estimate of the amount of increase in the value of the land in Ray County if this system were carried out?

Mr. MAYES. If this system were carried out, it is my opinion that it will multiply by two or three—it will multiply by two the agricultural production of those 40,000 acres. Now, I do not believe it is within my rights to say with safety that the large landowners would increase their holdings, but I might say that it is my belief from my observation in Missouri that land—real estate—values are based normally upon their productive value.

Col. WINSLOW. Then you could not give us any estimate at all of the increase in the value of this 40,000 acres if this system were carried out?

Mr. MAYES. As I have stated before, I will say that it will multiply by two its agricultural productiveness.

Congressman BORLAND. Mr. Mayes, I will ask you one question: You are secretary of the State Board of Agriculture of Missouri?

Mr. MAYES. Yes.

Congressman BORLAND. What has been the growth of the building of levees by private landowners between Kansas City and St. Louis since 1910?

Mr. MAYES. Down the river I believe that the increase since 1910, from my observation—I have seen the official figures, but will not try to quote them.

Congressman BORLAND. You do not know the official figures?

Mr. MAYES. I do not remember them, but the increase in the territory I have in mind since 1910 in the improved section is 100 per cent.

Congressman BORLAND. You refer to the drainage district?

Mr. MAYES. Yes; and in some counties 500 per cent increase.

Congressman BORLAND. In some parts of Missouri those drainage districts are built by local money without the aid of the Federal Government?

Mr. MAYES. Yes.

Congressman BORLAND. Is it not true that the building of those levees is predicated entirely upon the fixing of the channel of the river for the purposes of navigation by the Army engineers?

Mr. MAYES. It is predicated upon the proposition that the channel was fixed, and the fixing of doubtful channels is predicated entirely on the work of the Army engineers of the Federal Government.

Congressman BORLAND. And as the channel is revetted downstream by these improvements, securing a permanent 6-foot channel, that will permit the landowner to form his levee district and build levees, and they will do that?

Mr. MAYES. Yes.

Congressman BORLAND. And if the river is abandoned, the improvement of the river is abandoned as contemplated in this report, will the river in a few years, by changes in its current, unregulated, sweep away most of this levee construction?

Mr. MAYES. Yes; most of this levee construction will be swept away that I have in mind.

Congressman BORLAND. Do you know how much is invested in levee construction in the State of Missouri?

Mr. MAYES. I hesitate to state the official figures, but it is something like $1,944,000.

Congressman BORLAND. Is that approximately the correct amount invested in levee construction between Kansas City and St. Louis?

Mr. MAYES. I have seen the figures; it is something more than $1,000,000.

Chairman BLACK. Opposite Jefferson City for some time the channel of the river has been fixed and permanent. As we went down there we saw large sections of land apparently reclaimed from the river bed by reason of the improvement of the river. Do you know how many acres have been added in that section of arable lands due to such improvements?

Mr. MAYES. Mr. Chairman, I have this in mind. I could easily answer that question by calculating. Going up and down there often, I know there are thousands of acres of land, perhaps, reclaimed. And also, Mr. Chairman, I happen to know at this time that plans are well under way for the building of permanent levees to guarantee the reclamation of that land to which you refer and which I have in mind.

Chairman BLACK. Have you any idea of the increase of taxable values along that reach of the river?

Mr. MAYES. Mr. Chairman, allow me to answer that rather indirectly, that not until the improvement of the Missouri River is an accomplished fact will there be an increase in taxable values as a necessary thing. The taxable values have not been developed and have not been established by the county courts, because there is that shadow hanging over it yet, but great increases are in project.

Chairman BLACK. There are some reaches that have been reclaimed for 20 years, and some cultivated farm lands along the reaches opposite Jefferson City, where the river has been permanently fixed for about that period. I believe I am correct in that, am I not, Mr. Mayes?

Mr. MAYES. That is an area of land I pass on the train only, and I can not speak of it officially or with authority, and this might not be an answer, but I might state that the ownership of river-bottom land has so much to do in many cases with what the river bottom has done in the way of land reclamation; I might say that for all down the Missouri, in answer to your question, that if we had such men as Mr. Offutt, or the Brun brothers, or the Whitman boys and others like them that those levees would be built, but the land has been in the hands of speculators opposite Jefferson City for many years, but now it is getting in the hands of people who are going ahead and protecting their land with levees.

Chairman BLACK. I saw no levees in the reaches we passed.

Mr. MAYES. You will find communities where your statement is literally correct, and in many cases it is because of the fear of the shadow that is over the river and over the land.

Chairman BLACK. But there is an increase in taxable value?

Mr. MAYES. There is an increase. Allow me to speak indirectly on that point, along those river bottoms. I have investigated that matter, and I will say to you that the increase has not gotten upon the tax books because of that shadow of uncertainty even in the levee districts. There is some improvement, but the increase in selling value is uncertain, and the increase has not been made but in few cases upon the tax books as yet, because, Mr. Chairman, we beg to say, legally, "The title is not yet clear from the hands of the river."

Congressman BORLAND. Your office does not have supervision over the levee boards, does it, Mr. Mayes?

Mr. MAYES. No; the drainage commissioner.

Congressman BORLAND. I was going to ask you to put in the record the official statement, but I will not do it.

Mr. MAYES. Mr. Chairman, I would rather not. I have not myself been in the river and drainage work for years, and I do not want to make any official statement, because it is not within my right.

(Witness excused.)

J. W. BROCKETT, called as a witness, testified as follows:

Congressman BORLAND. Will you please state your name for the record?

Mr. BROCKETT. J. W. Brockett.

Congressman BORLAND. You are a citizen of St. Joseph, Mo.?

Mr. BROCKETT. Yes.

Congressman BORLAND. Are you connected with the commercial bodies there?

Mr. BROCKETT. No, sir; I am not.

Congressman BORLAND. What views have you to express on this matter?

Mr. BROCKETT. Well, having had, I suppose, the same notice in regard to this hearing that a good many other citizens have had——

Congressman BORLAND (interrupting). Before you start in I would like to have the board understand your relation to the interests there. You are an engineer, are you not?

Mr. BROCKETT. Why, I claim to be; yes, sir.

Congressman BORLAND. State fully your business and your standing in relation to the commercial interests in St. Joseph, so that the board may understand.

Mr. BROCKETT. Mr. Chairman and gentlemen of the board, I have had a somewhat extended connection with the city of St. Joseph. I am a civil engineer and have had considerable experience upon the Missouri River; perhaps a great deal, perhaps a more definite history of the river from Sioux City, at least, from Kansas City, to St. Louis than almost any engineer now alive.

I want to state, although I hate to confess it, that I am nearly 70 years old. I have in my lifetime been acquainted or connected with an enterprise that took me, as an engineer, into a law office, and for four years in that law office I conducted the business of that law office, with other employees, and in connection with a certain case I compiled a book of the land-grant records of the United States, of all canal records, turnpike records, and every public franchise I could find in any State or Territory related to transportation or related to highways. That case finally became known as the 400,000-acre case of Kansas. I came out of that office a fairly well-read lawyer.

I have combined those two professions in more recent years—in fact, ever since—in railroad construction. And, in order to ease myself from the stress of those labors, I have been farming, and this year I have raised almost as fine a crop of corn as can be found in the Missouri Valley, so that I have some acquaintance with the State of Missouri and with the river.

I have lived at St. Joseph for 30 years. One of the most considerable tasks I undertook was the building of the Union Terminal Railroad at St. Joseph. I had to do a great deal of river work in the building of that road, and I became thoroughly acquainted with those conditions. Twenty years before that time, at Sioux City, I had made some changes in the river bank there for Massachusetts people, so that I may say to you that I speak with some knowledge as to what can be done on the Missouri River channel.

So far as the commercial interests of St. Joseph are concerned, I have been helping to build a railroad in different parts of the city, and I have, in a way, added to the industries of the community. That is about the extent of it, except the good will I feel toward my city.

Preliminary to reading a very short brief, I wish to make a few remarks in relation to the State of Missouri, as one of the States of the Union. As a board of engineers, you are well aware that it occupies a most unique situation among the States of the Union. It has more river frontage, taking the great flowing Missouri River through the State, from its eastern boundary to Kansas City on its western boundary, and from Kansas City up to the Iowa line, more river frontage on a great navigable stream than any other State in the Union, and I want to stop at this point just a moment and explain that while I say "great navigable stream," it is not navigable under all conditions.

I heard a gentleman talking about 100 or more wrecks in the river. I have seen box cars run down off of the track and into the solid ground; I have seen many railroad accidents, and have observed the hazards of every kind and character of transportation, and I want to say that from my observation of the traffic up and down the river that there is but one class of transportation by the river, and that is such as existed when we first discovered it. And while I admire the effort of our Kansas City friends to navigate the Missouri River, I think they have undertaken to ask too much depth in the Missouri River. I think the old-fashioned boat, if it had a steel bottom and could be put into service profitably, would be the only way to bring about successful traffic on the river.

And I believe, gentlemen, to go to another branch, that there has been a mistaken policy on the part of the Government and upon the part of the War Department in treating the Missouri River. The Missouri River belongs to the United States Government, because it is a navigable stream, and it is in charge of the War Department, but we hear to-day so much said about what is just outside the banks of the river—the alluvial soil has been brought down, and then we have heard of its being washed from this side and that side—and I want to say that it will require a different policy from the State of Missouri and its citizens, and a different policy from the United States Government, and then we can go forward toward the successful navigation of the river.

The policy that should be proceeded with is a united policy on the part of this State with the United States Government, with a policy that the people of this State can adopt with the United States. I will not go into the detail of bank revetments and work which can be done, but all of the engineers who ever have been on the Missouri River, all I have ever heard, who have been up and down the river, know that only one side of the river needs protection at a time, consequently only half of the whole river, or comparatively, so to speak, about one-half of it, as far as the State of Missouri is concerned, will need any care taken of it in the preservation of its banks. Consequently the project should be joined in by the State and by the Government, and I may undertake to outline a little plan with reference to the portions in and about the centers of population; that the policy should be so changed that there will be no idea of

navigation connected with the aid of the Government around those centers, but simply an idea to take care of the commerce that has been centered around and about those centers of population and everything that has grown up there.

I possibly could take some time longer and possibly interest you, and perhaps not. I am going to say this, however, before I take up my paper, that I have studied this question of transportation some in the last six or eight weeks, and very considerable in my lifetime, but, as I say, lately I have given it considerable attention, and I think that if the ideas which I have here expressed are followed up they will perhaps be of some assistance to our Congressmen in Congress.

In 1910 there was an appropriation of $75,000 for protection work at St. Joseph, in which the citizens of St. Joseph were asked to contribute a like amount of $75,000. But that like amount was never contributed, gentlemen, although there was the absolute need then and there is to-day that the work should be done, but our citizens sat there idle and supine and did not undertake to make the effort, and their Congressmen quit that work. Consequently, the effort will have to be made again, and if it is not done at all a great deal of havoc will be done in that neighborhood.

This brief may perhaps, in the first instance, have some ideas that are not exactly in line, not hardly atune to it, not close enough to the subject, but I believe, when considered as a whole, it will give you some light upon this subject.

Referring to this bill under which this hearing is called, under the fourteenth section, I have no doubt but that every member of the Missouri delegation voted for it, because they were so massed together that every Congressman was forced into taking care of himself; hence the engineer in charge of the river at this point was called on, under the fourteenth section, to make his report. Now, whenever I have taken up the report of the officer in charge I have deferred a great deal to his judgment and opinion, for the reason that he is a sworn officer of the Government undertaking to do his duty as such sworn officer, and believing that he undertakes to make a complete investigation, and as he goes on investigating and gets to fully understand the situation his report ought to be looked upon somewhat as an authority as to conditions as he finds them and understands them.

I refer in this brief to Capt. Hiram Chittenden, one of the Army engineers in charge of the river——

Congressman BORLAND. Do you purpose to file that brief with the commission?

Mr. BROCKETT. Yes; but I would like to read it, if you please; it has only five pages.

Congressman BORLAND. I think it would be delightful to have you read it, but I must consider the interests of some other men here who have to take trains, and I do not want to shut them out.

Mr. BROCKETT. I will, of course, be short; it will take but 7 or 10 minutes.

Congressman BORLAND. I have no objection to your reading the paper, but I want to preserve the rights of other men that have come here, and if you will limit yourself to 10 minutes you may proceed.

Mr. BROCKETT. I can do that nicely; much obliged.

(At this point witness reads paper, which is filed with the secretary of the board.)

(Witness excused.)

M. M. STEPHENS, called as a witness, testified as follows:

Congressman BORLAND. State your name for the record please.

Mr. STEPHENS. M. M. Stephens.

Congressman BORLAND. What is your official position with the State of Illinois?

Mr. STEPHENS. Chairman of the Illinois Waterways Commission.

Congressman BORLAND. Are you here by authority of the governor of Illinois?

Mr. STEPHENS. Yes, sir.

Congressman BORLAND. For what purpose?

Mr. STEPHENS. Simply to represent him and state that he is in favor of the improvement of the inland waterways, and is about to expend $5,000,000 in that direction, with the approval of the last Legislature of the State of Illinois.

Congressman BORLAND. What do you say, Mr. Stephens, as to the practical necessity of having a connected system of waterways in the Mississippi Valley?

Mr. STEPHENS. I think it is very essential.

Congressman BORLAND. Including the Missouri River and the Ohio and also the Mississippi?

Mr. STEPHENS. And the Illinois and the Drainage Canal from the Lakes?

Congressman BORLAND. Yes.

Mr. STEPHENS. I think it is very essential indeed.

Congressman BORLAND. Are there any other facts you wish to present along that line, Mr. Stephens?

Mr. STEPHENS. Nothing that would enlighten the gentlemen that I know of at present. I have just started in; I have only been in office a week so that I am not very thoroughly posted on the building of waterways, while I have been an advocate of it for many years.

Col. NEWCOMER. Let me ask you if that expenditure of which you speak, by the State of Illinois, is contingent at all on further work to be done by the United States?

Mr. STEPHENS. No; the people have voted $20,000,000.

Col. NEWCOMER. And it was not expected that the United States would cooperate in that certain work?

Mr. STEPHENS. We will have to submit it to the United States in order to get into the Illinois River, and we have to work hand in hand, but we do not expect them to expend any money.

Col. NEWCOMER. And the appropriation by the State is not made contingent on that?

Mr. STEPHENS. No.

Congressman BORLAND. The State of Illinois expects to get back this $20,000,000, or a return upon it, by the sale of water power, does it not?

Mr. STEPHENS. Yes.

Congressman BORLAND. So that it is a development of the resources of the State of Illinois?

Mr. STEPHENS. Yes.

Congressman BORLAND. And they are making this enormous investment and expect to get it back and retire those bonds from the earnings of the water project?

Mr. STEPHENS. Yes.

Mr. BLAND. So far as the State of Illinois is concerned, it has or its donation will be $100,000,000 when the $20,000,000 will have been expended for navigation purposes?

Mr. STEPHENS. Yes, sir; which will give it a water route through the canal from the Lakes to the Gulf.

(Witness excused.)

C. F. SCHAFER, called as a witness, testified as follows:

Congressman BORLAND. State your name, please.

Mr. SCHAFER. C. F. Schafer.

Congressman BORLAND. What have you to state, Mr. Schafer?

Mr. SCHAFER. Gentlemen of this board, I represent the landowners of Saline County and the Missouri River bottoms in Saline County, Mo.

Saline County, Mo., has more Missouri River frontage than any other county in the State. I believe one gentleman this morning said his county had more river frontage, but it has not more frontage on the Missouri River. Our county is bounded on three sides by the Missouri River.

In the western end of the county we lay just below the work done by the Government at Waverly, and after the Government made the appropriation to do this work at Waverly we people got busy. We figured there was a chance that the Government would come on down this river from there and make it navigable so that we could ship our products by water and also protect our land from the overflow of the river. And we went into the county court and formed a levee district, and we have spent $30,000 in that one levee district immediately north of Malta Bend, and our levee has been saved from the ravages of the river up until the present time. I expect, when you made your trip down the river, just below the bend and levee you saw some sacks. There was a place we found was a little low and we put those sacks there. The river had made a change there, and it looked like a part of our land was going into the river, and we had no permanent place to ship our grain on the river.

The river at that point is, to look at it, about a mile and one-half wide, and sometimes the boats come down on our side of the river, sometimes on the Carroll County side, and sometimes in the middle of the river. There is plenty of water if it was confined to one channel.

I have a man here, a Mr. Wilson, who I do not believe is just now in the room, that says when the bank is protected he will construct warehouses on that bank for shipping facilities on the river. It is a very fine place. We have roads leading from there out to all the land in all directions, and that point would make a fine shipping point. As it is, we have got to go to the railroad, and while it is not far from that place to the Missouri Pacific Railway, yet we could get a little better rates on the river, and we were very sorry to see this report of Col. Deakyne's, because we felt that we were very much at the mercy of the Missouri River, especially as all our property is in the Misssouri River bottom, and all we have got is there. We realize the fact that when you make the Missouri River navigable you make the banks of the river permanent, and then we can protect our land by levees, and I will venture to make the assertion that there will only be a small portion of the land on the Missouri River bottoms from Kansas City to St. Louis that will not be protected by levees from the overflow of the river as soon as the people see that their money is not going to be washed into the river. And we figured that by the time the river would threaten a change the Government would not be far away with their work, and that its work would continue; but if the Government now stops its work our money will be gone.

Congressman BORLAND. How much money did you say was invested in your district?

Mr. SCHAFER. We have invested $30,000 in our district, the Grand Pass drainage district I think $20,000, and the Gillham Lake district $20,000, making a total of $70,000 invested altogether.

Congressman BORLAND. And that has all been raised by the landowners themselves?

Mr. SCHAFER. Yes; that has all been raised by the landowners themselves; we paid that all ourselves. The Government and the State did not pay a cent.

Col. BIDDLE. How much land is there in that district?

Mr. SCHAFER. There is, roughly, about 9,000 acres in the three combined districts. I will say that in those three districts there is approximately 4,000 acres of reclaimed swamp land, and while we did not get much off of the swamp land this year, last year off of the swamp land we raised enough crops to pay for all the expense of draining and reclaiming the land. You realize that this year there was so much rain we could not raise the crops, and while our land was not overflowed and we raised on the highland a good crop, yet just above Miami the bottoms were overflowed and the bottom land on the Carroll County side was overflowed; and that just simply shows what the work on the Missouri River will not only do for navigation, but what it will do for the people that own the lands along the river bottom. I think that is about all I have to say.

Congressman BORLAND. I understand you to say that your work down there is wholly dependent on a continuation of this channel work?

Mr. SCHAFER. Yes, sir.

Congressman BORLAND. You are doing that at your own cost and expense, but your work is practically so connected with the channel improvement that it would have to be abandoned if the channel improvement was abandoned?

Mr. SCHAFER. Yes; that is true. We have at the lower end of our ditch just one place there where we have a pumping station that the river went to, but if this work is abandoned we have $3,000 that will go in there in one lump.

Congressman BORLAND. You do not know the condition on the lower Mississippi River?

Mr. SCHAFER. No; I do not know the conditions down there.

Congressman BORLAND. Down there they have enormous levees that protect a very large area of land. My understanding is that in the Missouri River bottom different conditions prevail, and that on account of the frequent small streams that come down from the hills they must have small levee districts to protect relatively small amounts of land?

Mr. SCHAFER. Yes.

Congressman BORLAND. And we have adjusted our State laws to that condition, to provide for small levee districts?

Mr. SCHAFER. Yes; we have levee laws that permit the formation of levee districts in the county or circuit court. Our district is incorporated under the circuit-court plan. The two districts just above ours are in the county-court plan.

Congressman BORLAND. And that accounts for the fact that your districts are relatively small in the area they take care of?

Mr. SCHAFER. Yes. Of course, we have small territory on our side of the river right there, but it is very fine land, as good land, as one of our commissioners told the court, as can be found in the Valley of the Nile.

Congressman BORLAND. You are indulging in a relatively high expense for protection for a relatively small amount of land?

Mr. SCHAFER. Yes.

Congressman BORLAND. But you regard that land as justifying the protection you give it?

Mr. SCHAFER. Yes.

Congressman BORLAND. And the contributions you are making as local landowners for the building of levees is practically almost the full value of the land, is it not?

Mr. SCHAFER. Well, yes.

Congressman BORLAND. That is, except for future development?

Mr. SCHAFER. The work we have done on that land will cost us as much as the land was worth in the first place, while we figured that when the work was done the land would be worth double what it is at the present time. And our commissioners—I will say to you what they estimated the value of the land to be, and they were three as good men, I think, on land values as there are to be found in our county, and they said that swamp land that was covered with water from 1 to 4 feet deep in the spring of the year when you wanted to farm it, and that in the fall of the year, when you could not farm it, because it was too late, it was dry, and did not even make good fishing or hunting land, and that it was not worth anything; it was not worth $5 an acre; but that if drained it was worth $60 an acre. There was lots of that land last year that produced 40 bushels of wheat to the acre and some of it sold for $1.50 a bushel. Of course, this year they did not get to cut the wheat, but there was wheat on the ground this year at harvest time that would have made 40 bushels to the acre again.

Congressman BORLAND. When was your levee or drainage board organized?

Mr. SCHAFER. I think we were organized in 1910. We were a long time getting through court.

Congressman BORLAND. It was organized in 1910?

Mr. SCHAFER. Yes; I think we were organized in 1910.

Congressman BORLAND. And your work has all been done since that time?

Mr. SCHAFER. Yes.

Congressman BORLAND. And are you near the completion of your work?

Mr. SCHAFER. Yes; our work is completed; it has been completed now for a year.

Congressman BORLAND. I just want to call the attention of the board in that connection to the statement appearing at page 44 of the brief, House Document No. 1287, a statement which was made by the special board of Army engineers, including Col. Abbot and some of these other gentlemen, who came here in November of 1910 to consider the question of local cooperation of this State. It is as follows:

"It is also considered proper to draw attention to the fact that the public hearing of November 14, 1910, disclosed that the owners of bottom lands along the river were merely awaiting the protection of the banks before beginning the construction of levees on an extensive scale. As soon as the United States has rendered the banks secure, local interests will find it possible and profitable to build levees, and the river improvement should be so conducted as to insure that the distance between the levees on opposite banks shall be sufficient to prevent damage to the low-water channel by floods which may have discharges from 750,000 to 900,000 second-feet."

That was just about the time you were beginning your work?

Mr. SCHAFER. Yes; just about the time we were beginning our work.

Congressman BORLAND. Gen. Bixby said, in commenting on that report:

"I concur with the board that the levee construction should be left to the riparian owners and that as a general rule other cooperation will be impracticable, but I consider that among city points or at other special localities, where large interests are involved, cooperation in the way of bank protection may properly be required."

Now, you were speaking of the condition around Malta Bend, where the three levee districts are.

Mr. SCHAFER. Yes.

Congressman BORLAND. You are not aware of the number existing up and down stream between here and St. Louis?

Mr. SCHAFER. No; there is a district just across from us in Carroll County and nearly all that part of the county is in a drainage or levee district and there is a levee district down below Glasgow.

Congressman BORLAND. The effect of the reclaiming of this land and making it subject to cultivation year after year would be to increase the surplus agricultural products that will go up and down the river?

Mr. SCHAFER. Yes, sir.

Congressman BORLAND. There is no doubt about that in your mind at all?

Mr. SCHAFER. No; there is no doubt about it in my mind whatever. Just below us, in what is called the Miami bottom, here a few years ago those farmers down there lined their wheat up along the river bank for the ferryboat to come up and get it—before navigation started—and the ferryboats came up and got it, and it is cheaper than to haul it to Malta Bend. And those farmers had to work day and night to move that wheat back to keep the river away from it and that took all of the money they got out of the wheat. And that is true not only at one point but all up and down the river.

Col. WINSLOW. Has the levee work you have been doing upon the lowland had any effect upon the value of land in the uplands?

Mr. SCHAFER. There is no upland in our county.

Col. WINSLOW. But there are uplands along the river?

Mr. SCHAFER. Our work has only been completed a year and we got one crop off of it, and this year we have had excessive rain and have not received much benefit from it this year. Had it been a normal year our land would pretty near have doubled in price this year. After the work was done some of that land sold for about one-third more money than they had ever sold any land in that bottom for before, figuring that this work would be a benefit to it. Some of that lake land, owned by the Kansas City Co. here, Stewart & Peck, and those fellows, they paid $10 an acre for that land for hunting purposes. Mr. Wilson bought that land last spring and paid those fellows $40 an acre for it. They did not want it for hunting purposes any more after it was dry. Mr. Wilson wanted it for farm land. That shows what that work has done to increase the value of that land. That is the best I can answer that question.

(Witness excused.)

AUGUST WOHLT, called as a witness, tesified as follows:

Congressman BORLAND. State your name, please.

Mr. WOHLT. August Wohlt.

Congressman BORLAND. You are from Hermann, Mo.?

Mr. WOHLT. Yes.

Congressman BORLAND. What business are you engaged it, Mr. Wohlt?

Mr. WOHLT. I used to be in the steamboat business. I am representing the Commercial Club of Hermann just now and a citizen in general of the city of Hermann. I want to state to the board that we are in a bad fix down there. We do not ask for any land protection now on our side—the Gasconade side—but we ask for some help to get the river back to our side again, because Hermann is the shipping point, or shipping port, for the Gasconade River, the same as St. Louis would be for the Mississippi River, and if the Gasconade River traffic can not get to Hermann it is practically at an end, because there is no way to dispose of their goods at Gasconade, except to load them into the cars and ship them that way. Down at Hermann, if they can ship to Hermann, the wheat is consumed into flour and shipped on from there, and live stock and all such stuff is also shipped on cars there.

But our county has not got more than about 8 or 10 miles of land that has caved in. But that has been riprapped in such good shape some years ago that it has held ever since and we do not ask for land protection, but we do ask to have the river brought back again—for river protection—to get the channel back there again. And I wish to affirm the statement Mr. Spear made this morning as to work done on the Gasconade River and on the Osage River. The Osage River we do not get so much benefit from, but we do from the Gasconade River work. And at the present time the river is 9 feet on the gauge, but if it falls to as low a stage as it did two or three years ago, or last year, we will have dry bars and no water at all.

The Government has put in a few dikes on the other side about a mile and a half above, but it looks like they could not get that side to hold. If they put in a few more I think they would be more successful in turning the water over to us. But now, if the Government quit doing any work whatever, there is no

telling how far out we would lose the river; it would be dry there for some time. Therefore, I would like to ask, if possible, that if any appropriation is made, that that work should be looked after as soon as possible, as there is urgent need for it.

Congressman BORLAND. Mr. Wohlt, you realize, of course, that they are following a general engineering plan of improvement of the entire reaches of the river, and the question now under discussion is whether that engineering plan should be abandoned. What would be the effect on your locality down there if than was abandoned?

Mr. WOHLT. If that was abandoned, it would be hard to tell what it might result in. We might have hundreds of acres of land in front of town there in a short time. Of course, it might come back later, we don't know, but the way it is cutting in there now it is going in by acres at a time.

Congressman BORLAND. Hermann is an important shipping point, is it not?

Mr. WOHLT. Yes, sir; for the Gasconade River. We have all the way from two to five boats running up and down there.

Congressman BORLAND. You have your own local industri s there, too?

Mr. WOHLT. Yes.

Congressman BORLAND. Have you anything more you want to present?

Mr. WOHLT. No; that is all I wish to state.

I wish to state that Mr. Mackie has got a statement of the Gasconade River traffic, and he can tell you what the traffic is on that river.

Congressman BORLAND. Very well, we will have that put in the record.

(Witness excused.)

CURTIS HILL, called as a witness, testified as follows:

Congressman BORLAND. State your name for the record.

Mr. HILL. Curtis Hill.

Congressman BORLAND. You are city engineer of Kansas City, Mo.?

Mr. HILL. Yes.

Congressman BORLAND. Mr. Hill, the mayor of Kansas City was here this morning and left word that you would be able to explain to the board the condition of the municipal terminal of Kansas City, its present condition, and when it was created, and what it consists of, and what extension is proposed of it.

Mr. HILL. Gentlemen of the board, I can only give that in a general way. I have nothing much to add to the information you have already received, but I want to state as a representative of Kansas City that the municipal wharves which most directly concern your subject were constructed before I entered the service of the city. We are now making arrangements to add to them whatever may be necessary in order to aid in handling the freight, and we are working with the Missouri Pacific Railway for a spur track into the warehouse, and we expect to soon erect further crane facilities on the unloading docks. That is the extent to which we are planning the extension of the wharf facilities at the present time.

Congressman BORLAND. Mr. Hill, my attention was distracted for a moment. What improvements are contemplated?

Mr. HILL. Only to the extent of another unloading crane and a spur track, one additional track.

Congressman BORLAND. There is only one unloading crane there now?

Mr. HILL. Yes; one 2-ton crane.

Congressman BORLAND. What will be the capacity of the new crane?

Mr. HILL. Possibly 4 tons.

Congressman BORLAND. That will triple the capacity, will it?

Mr. HILL. Yes; it will triple the present capacity.

Congressman BORLAND. This picture here in the brief represents the traveling crane, does it?

Mr. HILL. Yes.

Congressman BORLAND. So your improvement contemplated will triple the capacity of that municipal wharf?

Mr. HILL. Yes.

Congressman BORLAND. Is there anything further you wish to state, Mr. Hill?

Mr. HILL. Nothing further, Mr. Borland. I am not an expert of high experience in these matters.

Col. WINSLOW. Does the city get any revenue from this terminal at Kansas City?

Mr. HILL. Only from storage charges.

Col. WINSLOW. And the city does not get that if the freight is unloaded and taken right away?

Mr. HILL. No, sir.

Col. ABBOT. Who pays the expenses of operating the crane?

Mr. HILL. The company.

Col. WINSLOW. Does the money received from storage pay the running expenses?

Mr. HILL. Yes, sir; about; that is, the running expenses of the city men who are in charge.

Col. WINSLOW. It pays no interest on the investment?

Mr. HILL. No; it does not.

Col. FLAGLER. Do you look in the future to get any return on the investment?

Mr. HILL. We have never considered that, that I know of. I have been in the engineering department.

Senator REED. They get a pretty big return in the way of better freight rates, don't they?

Mr. HILL. Yes; but not in the way in which the question was asked.

Congressman BORLAND. That municipal wharf is constructed on public ground owned by Kansas City, is it not?

Mr. HILL. Yes; Kansas City owns the river front for some distance both ways from the present wharf.

Col. NEWCOMER. Some one told me to-day that there was a charge of 2½ cents a ton for material that simply went over the wharf and 5 cents a ton for material that went into the warehouse.

Mr. HILL. It may be true that the 2½ cents is charged, as you say, but the 5 cents for storage is the only charge that I have knowledge of.

Col. NEWCOMER. And the transportation company furnishes the labor for the operation of the crane?

Mr. HILL. Yes.

(Witness excused.)

A. A. POLAND, called as a witness, testified as follows:

Congressman BORLAND. State your name, please.

Mr. POLAND. A. A. Poland.

Congressman BORLAND. What is your connection with the Kansas City Missouri River Navigation Co.?

Mr. POLAND. General freight agent.

Congressman BORLAND. How long have you been such general freight agent of the transportation company?

Mr. POLAND. Since the 15th of April, 1912.

Congressman BORLAND. What are your duties in that connection?

Mr. POLAND. Having charge of the traffic, the rates, and the handling of the business of the company so far as rating and solicitation, etc., is concerned.

Congressman BORLAND. Had you previously been in the railroad business?

Mr. POLAND. Yes, sir; for 26 years with the railroads before I came here.

Congressman BORLAND. What was your connection with the railroads?

Mr. POLAND. The last position I had was with the New York Central. Previous to that I was with the Ontario & Western 15 years, and with the Wabash previous to that at St. Louis.

Congressman BORLAND. So that you have had some experience with freight traffic and freight rates?

Mr. POLAND. Yes; for a number of years.

Congressman BORLAND. I wish you would tell the board briefly in your own way of the growth of the traffic of the boat line for the period you have been with it.

Mr. POLAND. Briefly speaking, the statement is in the brief. The statement of tonnage handled each year speaks for itself, and it shows a very heavy increase; it indicates the condition of the river traffic more than anything else. This brief contains a statement showing that in 1911, 1,084 tons of freight were handled; in 1912, 5,215 tons; in 1913, 9,784 tons; in 1914, 13,677 tons; and in 1915, up to the 1st of October, 27,306 tons.

Congressman BORLAND. That is, up to October 1 of this year?

Mr. POLAND. Yes; up to October 1 of this year.

Congressman BORLAND. When does your navigation season close?

Mr. POLAND. The 15th of November of this year. We are closing a little earlier than in recent years.

Congressman BORLAND. When does your navigation season begin?

Mr. POLAND. The 1st of March.

That tonnage statement, while it shows the number of tons moved, does not give the character of the tonnage or give any idea of the business of the navigation company. Up to the 23d of March, 1913, we might say that we confined our business to westbound tonnage and to the small boats. The *Chester* was then working, and the *Advance* was a 150-horsepower boat with a little barge; and it does not reflect really what the navigation company could do. We did not attempt, up to that time, to handle grain products eastbound. We were not interstate-commerce carriers. The interstate-commerce law exempts boat lines from the operation of the law, except when they voluntarily enter its jurisdiction by filing a tariff with the commission. And we felt that our capacity was so limited that we could not throw our line open to the general public throughout the West to use for handling grain products, for that reason. If we had a tariff filed with the commission we would be compelled to carry the tonnage offered under that, and on any diverted tonnage we would have to pay the difference.

Congressman BORLAND. What season are you speaking of, Mr. Poland?

Mr. POLAND. In 1913 we filed our first tariff with the Interstate Commerce Commission.

Congressman BORLAND. What time in 1913?

Mr. POLAND. March 23—I think that was the date. That was on flour and feed, eastbound, and carried a rate of 80 per cent of the rail rate from Kansas City to East St. Louis. Previous to that time we had handled some few shipments of grain products eastbound, but it handicapped the shippers for the reason that they could not get negotiable bills of lading on those goods until they arrived at East St. Louis and had been delivered to the railroad. But after that tariff was filed it enabled us to issue through bills of lading, and our 1913 tonnage reflects the effect of that to some extent—the 1914 tonnage, I should say—and the 1915 tonnage consisted of 11,200 tons of grain products eastbound. That was the only tariff filed by the company with the Interstate Commerce Commission until the 13th day of September of this year, at which time we put in a through rate on grain products from Kansas City to Newport News and Norfolk, Va. That is covered in the brief also.

There is one thing I want to say, and that is that in 1912 the boat-line tonnage was 76 per cent third class and higher. In 1913 it was slightly lower, a little less than 65 per cent third class and higher; that is, at that time we were getting high-class tonnage for westbound shipments only. That has been reduced since we have gotten it to the carriage of heavy tonnage, which will increase year after year and greatly reduce the rate per ton. This year I can not give you the exact figures, but from my knowledge of it I would say that our tonnage of high-class freight, such as merchandise, will not run over 15 or 20 per cent of the total tonnage. That is for the the reason that we have been handling a heavier tonnage of downstream freight and a much heavier tonnage of steel and low-class tonnage westbound.

Congressman BORLAND. The high-grade stuff does not run into much tonnage but runs more into freight revenue. Is that true?

Mr. POLAND. Yes.

Congressman BORLAND. In that connection, Mr. Poland, can you make any fair comparison of the business transacted on the river by a simple statement of the gross tonnage, without regard to the ton-mile or classification of the freight? Does the mere statement of the gross tonnage disclose very much about the business?

Mr. POLAND. No; the mere statement of the gross tonnage does not show the business, for the reason, I can safely say, that there is not a boat line in the country that is handling the class of tonnage this line has to handle. We have not had a single barge come into Kansas City in the last two years that did not have a carload or more of pianos on it. We have handled plate glass; we have shipments right along of cut glass and fragile goods of that character.

Another statement I want to make right there as a railroad man of 30 years' experience. Our freight claims are less than those of any railroad in the United States. We have less damage and less breakage; our freight claims for 1915 will not be near 1 per cent of the freight earnings. A man who was with the Wabash Railroad for a number of years stated that from a statement of the loss on tonnage—I am giving you this data on his say—that the ordinary railroad freight claims on that class of tonnage would run nearly 3 per cent; ours will run less than 1 per cent.

We prorate all claims through to destination. If a shipment originates in Boston or any place in the East, and comes into Kansas City with what we call a "concealed loss" discovered after delivery, that is prorated clear through to the original point of shipment.

Congressman BORLAND. You are relieved, of course, being water carriers, from the damage caused by derailment, collision, and rough handling of cars, and all that?

Mr. POLAND. Yes; at East St. Louis we load—practically all our merchandise freight is upstream—we load by means of a conveyor. It is just simply a moving sidewalk, and there is very little jar or liability to damage. We handle heavy stuff on the same conveyor that we do fragile goods. At Kansas City we take the freight out with a crane, and naturally there is no jarring or jolting or damage from rough handling.

Then, another feature is that all of our freight is loaded in cargo-house barges with steel cargo houses, and the steel doors are closed and padlocked when leaving St. Louis; and we do not have any trouble with tramps or thieves en route; and that eliminates a great deal of the ordinary claims made on railroads of a mere pilfering nature.

Congressman BORLAND. One shipper said there was less pilfering on your line than on a railroad; and that is due to the conditions you have stated, is it?

Mr. POLAND. Yes; it is due to that; and a shipper told me to-day, who has shipped a good deal of freight, that during this season's business (and this is his first season shipping by our boat line) that they never had their goods come in such good condition, and that is largely due to the mechanical handling of the freight and the lack of the ordinary dangers of railroad traffic.

Congressman BORLAND. I wanted to call your attention to the case of the Kansas City Missouri River Navigation Co. *v.* The Chesapeake & Ohio Railroad, I. C. C. docket 7002, decided May 11, 1915. What was the scope of that case?

Mr. POLAND. The complaint in that case was drawn by Mr. H. G. Wilson, of the Commercial Club, and myself. There is in existence, and has been for several years, a through rate on flour and feed for export from Kansas City to Newport News. All other rates break at the Mississippi River—that is, the local rate to the Mississippi plus the local rate beyond the Mississippi makes the through rate. But in 1907 the western lines were authorized by their eastern connections to put in a through rate which was 2 cents per hundred less than the combination on East St. Louis. We found that there was a great deal of desirable tonnage (export flour leaving by way of Newport News), and we wanted to participate in that tonnage, and applied to the eastern lines to join us in a through rate and accept from East St. Louis the same proportion they were getting on rail business; and they informed us that they did not propose to put on any rate with a steamboat line. The commission had previously ruled on various occasions on railroad rates in combination with steamboat lines, and we appealed to the commission and won the case.

Congressman BORLAND. That is, the railroads declined to put in a joint tariff?

Mr. POLAND. Yes; and refused even after the commission had ordered them to do so. We got our decision in May, 1915.

Congressman BORLAND. You got your decision in May, 1915?

Mr. POLAND. Yes; but the decision in May of 1915 was not complied with until about the 10th day of August. Our tariff was filed on 30 days' notice, and I think we got the tariff out about the 10th of August and sent it to Washington so that it would be there August 13, effective in 30 days, which would be September 13. After that the railroad tried several schemes to keep from putting in those through rates, but now they are in.

Congressman BORLAND. So that you have won that particular victory?

Mr. POLAND. Yes; that is settled; and I believe we will not have to go to the commission again with a similar case, as the railroads understand that they must participate with steamboat lines in through rates, and probably will not in the future try to charge more than the proportion they are getting on ex-rail business.

Congressman BORLAND. That decision went only to flour and feed moving for export via Newport News?

Mr. POLAND. Yes; that was the extent of that particular decision; but it laid down the broad principle of participation of steamboat lines in those rates.

Congressman BORLAND. Are the railroads resisting now the making of joint rates on other commodities than flour and feed to Newport News?

Mr. POLAND. There has no question come up as to other commodities, for the reason this steamboat line—this territory—is favored by having a break of

rates at East St. Louis, so that the question would probably not come up except when we grew large enough to extend our facilities on out to other Kansas, Colorado, and Nebraska points.

Congressman BORLAND. What do you say about the rates on alfalfa and alfalfa meals that are based on the Cairo rate and do not break at East St. Louis?

Mr. POLAND. We have never gone into that.

Congressman BORLAND. Is it possible that you are going to have another case before the Interstate Commerce Commission on that?

Mr. POLAND. It is possible, but we have never so far taken that up. The matter is now up with the lines to join us in through rates to Cairo, and I believe that will be settled without recourse to suit.

Col. ABBOT. Is that a water line or rail line?

Mr. POLAND. Rail lines. There is no water line operating with which we could connect between St. Louis and Cairo.

Col. TAYLOR. Are you familiar with the Interstate Commerce Commission decision in the Chattanooga Packet case?

Mr. POLAND. I have read the case, but I have forgotten the exact decision. You mean where the Chattanooga line applied for a proportionate rate from the Ohio River crossings?

Col. ABBOT. Yes; Paducah and St. Louis.

Mr. POLAND. Yes; I am familiar with the decision in that case; the court decided in favor of the packet company.

Col. TAYLOR. Was not that similar to your case?

Mr. POLAND. Yes; that was a decision to that end. There is a previous case on the same ground, where the Savannah line operated from Augusta to Savannah on the river in connection with ocean lines to New England points and in connection with the New York, New Haven & Hartford, and the New York Central to interior points, but it covered the same ground as the Chattanooga case.

Col. NEWCOMER. Do you have railroad connection at East St. Louis?

Mr. POLAND. We connect with the Wiggins Ferry Co., which gives us track connections with every railroad in St. Louis, and they are affiliated with the Terminal Railroad of St. Louis.

Col. NEWCOMER. What is that terminal arrangement?

Mr. POLAND. That was not explained exactly by Mr. Coyle. He left the impression that the navigation company landed at East St. Louis, but he did not go into it as explicitly as he should. We land at East St. Louis, but we make rates to St. Louis which are exactly 80 per cent of the railroad rates from Kansas City to St. Louis. And we have an arrangement at St. Louis with the St. Louis and the Columbia Transfer Companies for handling less-than-carload lots of freight between dock and industries in St. Louis through their five stations in St. Louis. We also make deliveries in carload lots in St. Louis on the Terminal Railroad tracks and absorb the transfer charges.

Col. TAYLOR. If you did have a wharf or dock at St. Louis, is it not probable that you would dock both at St. Louis and East St. Louis?

Mr. POLAND. We would not be compelled to dock at St. Louis. In making rates to the East, I make this statement, that 90 per cent of the business westbound comes to us in carloads. Practically all of that originates east of the 150-mile district Mr. Coyle spoke about; that is a little district around St. Louis where the bridge arbitrary applies. The rates without that district apply to St. Louis or East St. Louis at the same rate; it applies to each point, and if we had a dock at St. Louis the railroads could deliver at East St. Louis or at St. Louis, as they do now.

Senator REED. Let me interject a question to see if I can clear that matter up. Is not that arrangement abolishing the bridge arbitrary one that has only been effective the last 10 or 12 months?

Mr. POLAND. No; the bridge arbitrary primarily was absorbed in 1907, but it was not worked out to its final condition until the last 10 or 12 months.

Senator REED. Well, it was wiped out then, and they quit charging it as a bridge arbitrary, and they absorbed it into the rate and made the rate to St. Louis substantially as much higher than the rate to East St. Louis as it had formerly been when they charged the rate as a bridge arbitrary?

Mr. POLAND. Not exactly. Previous to 1907 the first-class rate from New York, all rail, to East St. Louis was 87 cents a hundred. The rate to St. Louis was 87 cents a hundred to East St. Louis, plus the bridge arbitrary, which was arranged on a class-rate basis. In 1907, when the supposed wiping out of the arbitrary took place, the first-class rate was raised to 88 cents a hundred, and

so on down the line, on all classes of freight, on a percentage basis; and while it wiped out the arbitrary as an arbitrary, it raised the rail rates enough to partially offset the absorption of the bridge arbitrary by the railroads.

Senator REED. That is the point I was trying to get at.

Mr. POLAND. Yes, sir; that was the case at that time.

Senator REED. So that while up to the past few months there has been a discrimination in freight charges between East St. Louis and St. Louis, Mo., that has been recently practically wiped out?

Mr. POLAND. Yes; outside of the 150-mile limit and to some extent on coal within that limit.

Senator REED. And within the 150-mile limit there is still there a bridge-arbitrary charge or a charge which is the same thing in effect?

Mr. POLAND. Yes. On coal rates there is a bridge arbitrary of 15 cents a ton from East St. Louis to St. Louis, but the coal rate, in a 45-mile circle, which was formerly 35 cents, has been raised to 45, and in that way the matter has been adjusted seemingly to the satisfaction of the St. Louis people.

Col. NEWCOMER. You mean the rate to East St. Louis has been raised, too?

Mr. POLAND. Both to East St. Louis and St. Louis.

Senator REED. I do not know whether the commission understands what I mean. The freight used to be billed to East St. Louis, and when it went across the Mississippi River they had what is called a bridge arbitrary, which was an additional charge on that freight for crossing the bridge, which ran as high as five or six dollars a car for a carload of coal, and the result of that was that factories, in order to save that extra charge on coal and on other products, moved over to the Illinois side of the river from St. Louis, Mo., to East St. Louis, Ill. And then the history of it has been given by the witnesses.

Col. WINSLOW. The gentleman from St. Louis stated the city was about to begin those terminals, but you do not expect to use the terminal, even if completed?

Mr. POLAND. We would use both terminals. We are on leased ground at East St. Louis, and we would likely use the St. Louis terminal unless they put the terminal charges too high, but we will this winter increase our facilities at East St. Louis. They are too small there now, although our dock is 76 by 180, and we will have to have more room there.

There was a statement made by Mr. Hill which I want to correct. One of you gentleman asked about the charges at the Kansas City dock—I believe Col. Newcomer. We pay $3 for every boat which lands at this dock, and we pay $2 for every barge that lands there. We pay 2½ cents for every ton of freight that passes over the dock and 5 cents for every ton of freight that passes through the house. In addition to that, we furnish our own force, the entire force at the dock. We pay for the electricity for running the crane and for lighting, and so forth. We pay all expense except the salary of the dock master. The city has a dock master, who is paid by them. All other expenses of the dock are borne by the navigation company.

Senator REED. What has that amounted to in the last year?

Mr. POLAND. Do you know, Mr. Mackie, what that has amounted to in the last year?

Mr. MACKIE. It is something like $2,000.

Mr. POLAND. It is something like $2,000.

Senator REED. That would not more than compensate the city for the man at the dock and the wear and tear on the dock?

Mr. POLAND. I do not believe it would.

Col. TAYLOR. Mr. Hill's statement, then, that the city merely got the expense of wear and tear on the dock was scarcely true?

Mr. POLAND. No.

Mr. BLAND. Mr. Poland has some testimony about the terminal at Kansas City, which he has hardly time to read before adjournment.

Chairman BLACK. I think we had better adjourn now until 8 o'clock.

The board is adjourned until 8 o'clock this evening.

EVENING SESSION, OCTOBER 19, 1915.

Chairman BLACK. Please come to order, gentlemen. Will you go ahead with your witnesses, Congressman Borland, if you please?

Congressman BORLAND. Yes. Mr. Poland, you may finish up what you have to offer.

Mr. POLAND. Mr. Borland, I don't know of anything else I had to say, unless you or Judge Bland had something.

Congressman BORLAND. I want to ask you this: In your experience of soliciting freight for your boat-line company, have you found that the growing improvements on the river and the consequent better time and service given by the boat-line company have been an important element in procuring the patronage of the shippers?

Mr. POLAND. The testimony of Mr. Mackie to-day about covered that. When we started in with this boat line there was probably not a shipper in Kansas City who had any confidence in the line. They were afraid of it. A good many of them had lost goods with previous boat lines in wrecks. In the last one, the *Tennessee*, some of our good patrons had lost. That was the last venture. She is right down this side of Sibley now. We depended in the beginning very largely on sentiment and the loyalty of our stockholders to give us traffic. We could not offer service. We did offer 20 per cent saving in the freight rate, but the service was so extremely bad that the saving in the rate did not cut much figure. As the service improved, and I would say that the Government work improved the condition of the river, we got to making better time and got so we were running nights some on the up trip; and the last two years, especially this year, we have gone to the public on service and saving alone, and sentiment has not cut much ice in the solicitation of business during the last year.

Congressman BORLAND. What is the present feeling of the shipping public toward your line now?

Mr. POLAND. Well, the feeling is, as expressed by a great many of the shippers, that they are now receiving practically as good service as they get by rail.

Congressman BORLAND. Have you gained many new shippers during the season of 1914 and 1915; that is, following the season of 1913, which was taken by the district officer as the basis of his report?

Mr. POLAND. We drew off our billing to-day rather hurriedly, so that this is not exactly correct. I had the boys in the office go over it hurriedly to-day. In 1911 we had 63 shippers use the line; in 1912 there were 76; in 1913, 147; in 1914, 221; in 1915, 285. It shows that the line is more generally used now than it was.

Congressman BORLAND. What will be the effect on the boat-line traffic if this report is confirmed and the Government ceases this improvement work?

Mr. POLAND. Won't be any boat line but for a very short period.

Congressman BORLAND. That business that has been built up will be destroyed?

Mr. POLAND. We have either got to keep on increasing or quit altogether. We can not go back now. If we even should curtail our service for a year, if for any reason next year we were not able to give as good or better service than we did this year, we will feel it right away, because the shippers will not stay with us on sentiment. We must now give them service, and it depends entirely on the action of the Government as to whether we can improve that service or keep up the service we are giving now.

Congressman BORLAND. In regard to the question of whether the actual tonnage carried by river in 1913 is a test of the commercial possibilities of the river, what would you say?

Mr. POLAND. I would say that 1913 was purely experimental; that it was not a criterion at all. We have had during the year 1915 as much as 5,000 and 6,000 tons of freight offered to us in one week that we could not take on account of our limited capacity. Mr. Dickey has explained why our capacity is not greater, but we have had to book our freight to our present capacity, and we have turned down thousands and thousands of tons.

Now, I want to give you a little figure right there. There are approximately 12,000 barrels of flour manufactured in Kansas City every day. For every barrel of flour there is 70 to 76 pounds of by-product—bran and middlings. During the period from the 1st of March until the 1st of December the Kansas City millers alone can give to the boat line, figuring on 70 per cent of their output, 340,000 tons per annum.

Senator REED. Now, may I interrupt? Why do you figure on 70 per cent of their output? Have you any reason to believe that you can get that?

Mr. POLAND. About 10 per cent of their output is for local consumption. These are the figures of the millers. About 10 per cent of their output is for local consumption and about 20 per cent of their output is fast freight, wire orders, such as "ship me three cars to-day, fast freight," and that sort of thing, and about 70 per cent of it is figured by the millers as available tonnage—slow freight. About 70 per cent of the tonnage is now traveling slow freight. It is

traveling by rail to Chicago or by rail to St. Louis and seeking a water haul over the Great Lakes.

Senator REED. You figure you would get it, then, because you would give a lower rate?

Mr. POLAND. During the summer months, Senator, practically the output of the Minneapolis mills goes by water by the Lakes, and the millers of Kansas City have been laboring under a differential of 2 cents per hundred pounds higher rate than the millers of Minneapolis, although the short-line mileage from Kansas City to New York is shorter than the short-line mileage from Minneapolis to New York. They see in the boat line their only salvation for meeting the Minneapolis rate.

Senator REED. Well, will they patronize it?

Mr. POLAND. Patronize it? We have not been able to scratch the surface in our flour tonnage this year because of our limited capacity.

Senator REED. You mean by that that you have not been able to supply the demand?

Mr. POLAND. I mean by that that our barge capacity and our towboat capacity is not great enough to take the downstream tonnage.

Senator REED. That they offer?

Mr. POLAND. That they offer us. Now, that is only the Kansas City mills. That does not include the Kansas mills and does not include the Nebraska, Colorado, or Oklahoma mills. They could supply several times that tonnage.

Congressman BORLAND. Any further questions, Senator?

Senator REED. Well, when you are through, Mr. Borland.

Congressman BORLAND. I had asked you to explain why the tonnage actually carried in 1913 was not a test of the commercial use of the river?

Mr. POLAND. We had not started then. We are in our infancy now—absolutely in our infancy. We are trying to keep pace with the improvement of the river; that is about all.

Congressman BORLAND. And you are talking from the experience of a single boat line?

Mr. POLAND. Yes, sir.

Congressman BORLAND. I think that is all.

Chairman BLACK. Mr. Poland, you spoke a number of times of the tonnage from Nebraska and Kansas points away from the river. Would you expect to get tonnage shipped here on the short haul by rail and then transferred to the boat?

Mr. POLAND. Absolutely.

Chairman BLACK. You would?

Mr. POLAND. Yes. The interstate commerce law as laid down by the commission, or as interpreted by them, is such that a steamboat line might—well, I might say compel. It is not a good word to use, but they have stated that a railroad carrier can not exact more for its haul in connection with a steamboat line than it is currently receiving on business received from and delivered to a railway carrier.

Now, if the rates from Kansas are made to the Mississippi River, which they are, they make through Kansas City by all the lines running in here and through here. Those rates can all be made rail-and-water just as rates are made from Chicago to New York water-and-rail. There is no reason why the steamboat line on the river—this river or the Mississippi or any other—should be placed in any position other than that of the present status of the lake lines on the Great Lakes. They should participate in the through rates. A steamboat line, under the old manner of handling traffic on a steamboat line, made a rate from port to port. That is, the business that is hauled to the port by wagon—hauled to the line by wagon and hauled away from the line by wagon—never can and never will be a success. The steamboat line has got to meet the idea of transportation as it exists to-day. The shippers are not all located along the water front as they used to be. They are back along switch tracks and all around through the Blue Valley here and up the Kaw. Now, we reach out to Argentine and reach out to the Blue Valley. A man in the Blue Valley or anywhere in the big manufacturing district in Kansas City or way over here, like Peet Bros. or the Southwest Milling Co. in Argentine, knows he can load his cars right at his mills and ship them by boat line just the same as he would by rail. We absorb that switching charge. If it is a St. Louis shipment to St. Louis proper, we absorb the switching here to our boat or dock and take it to East St. Louis and load it on the car and switch it back into St. Louis, making exactly the same delivery as a railroad would give them. That is the only way a boat line can ever be successful.

Judge BLAND. You mean where they cooperate with railway lines?

Mr. POLAND. You must cooperate; have to.

Judge BLAND. It could be successful, however, if the channel were used on down the river to the Gulf?

Mr. POLAND. Oh yes, Judge; that contemplates the use of the river to the Gulf. But the boat line, to be successful from Kansas City, must reach out beyond here and take the products to the Gulf. We can not stop at Kansas City.

Judge BLAND. Both by rail and river?

Mr. POLAND. Yes; they should both work together and must work together. I made the statement before adjournment that 97 per cent of all the freight that came to us came to us in cars. That tells the story. If we do not cooperate with switching lines at each terminus we would only get 3 per cent of our tonnage.

Judge BLAND. Now, those cars are delivered right at your dock in St. Louis?

Mr. POLAND. Yes, sir.

Judge BLAND. Or wharf or dock.

Mr. POLAND. Yes, sir.

Judge BLAND. And do you use the trap cars in St. Louis, Mr. Poland?

Mr. POLAND. Yes.

The East St. Louis lines, as I explained before, since 1907, the rates from the East have all applied to St. Louis. The rates from the West have also applied to East St. Louis. So they overlap over the river. A trap car, as it is commonly called, is an emergency car made up at the freight depot and switched to an industry or factory or warehouse or to a delivering station. In St. Louis and East St. Louis trap cars are made up and sent over to the Tenth Street station on the terminal for delivery, and they will pick up all miscellaneous consignments and load in that car.

Judge BLAND. It is L. C. L.?

Mr. POLAND. L. C. L. shipments of 6,000 pounds and over. Our dock being on the river and on the Wiggins Ferry track, is intermediate, or between rather, the East St. Louis depots and St. Louis deliveries. Therefore, it took a little arguing to show our railroad friends that that was a fact some four years ago, and that those rates from the East must apply to our dock, as they apply to St. Louis. Trap cars ran right along the same track where our spur ran off the main line; and to-day and for the last three years or four years all the railroads at East St. Louis load trap cars of miscellaneous freight to our dock and absorb the switching. On the eastbound business they absorb the switching from our dock to their rails on through business. That shows the friendly spirit on the part of our railroad friends, but it was not entirely friendship. It was simply a case of have to.

Judge BLAND. Now that explains your methods and trap-car service. You have local shipments originating in St. Louis. How are they handled? How is that done?

Mr. POLAND. We have the same arrangement that all east-side railroads have. The St. Louis Transfer Co. has three stations in St. Louis for receiving and delivering freight, and the Columbia Transfer Co. has three stations in the north-central and southern part of the city. Those two transfer companies represent us just as they do the railroad companies; and any shipper in St. Louis can deliver to the nearest depot of the transfer company and they receive the freight for the navigation company and put it on a wagon and haul to our dock.

Judge BLAND. What is the charge for that?

Mr. POLAND. Charge is 5 cents per hundred, and we pay it.

Judge BLAND. You absorb that charge?

Mr. POLAND. Yes, sir; just exactly as the railroad company would and at the same figure they do.

Judge BLAND. That explains the terminal conditions at the port of St. Louis?

Mr. POLAND. Yes, sir.

Judge BLAND. When you receive a carload shipment for West Bottoms shippers, for example, or Rosedale or Argentine——

Mr. POLAND. When we receive a carload shipment for the West Bottoms or Rosedale or Argentine, where the switching does not exceed $9 per car—and that takes in practically every industry and manufacturing plant in Kansas City—we unload the freight direct from the barge, sometimes without its touching the dock, into cars and switch it to their plant and absorb the switching.

Judge BLAND. You absorb that charge?

Mr. POLAND. They have no impediment in the moving of the freight by boat any more than in shipping by rail.

Judge BLAND. So you make carload delivery to any factory or wholesale house in Kansas City just the same as the railway does?

Mr. POLAND. To anybody where we can make track delivery.

Judge BLAND. Now, the L. C. L. shipments here are hauled by the shippers themselves?

Mr. POLAND. Yes; just as from the railroads.

Judge BLAND. From the freight station?

Mr. POLAND. Yes, sir.

Judge BLAND. By L. C. L. shipments I mean less-than-carload shipments.

Mr. POLAND. Less-than-carload shipments.

Judge BLAND. As no doubt the commission understand. But then, Mr. Poland, I understand your position is that you act exactly like the railroad except that you physically transfer from the car to your boat instead of hauling the car continuously, and the expenses are practically absorbed in your rate, which is 80 per cent of the rail rate?

Mr. POLAND. Yes. We perform the complete act of transportation. We do not put any burden on the shipper. And I maintain that the reason that there are no steamboat lines in existence to-day that are handling any volume of business is because they have not done that, and that is the reason of the nonsuccess of the large number of lines that are operating to-day on the Mississippi River unsuccessfully. I know of one line operating some five or six boats where they depend entirely upon the passenger traffic, and their traffic manager made the statement that they did not average over 40 tons of freight per trip for the reason that they have to depend upon the wagon-haul freight. The dock of every boat line in the country is located at the most undesirable place for a man to get his freight to. He has to haul it either down or up the hill to get it to or from the boat. It is always at the lowest place.

Judge BLAND. Have you any figures showing the cost per ton for handling at your terminals, both Kansas City and St. Louis?

Mr. POLAND. We had a cost last year of 63 cents per ton for two handlings. I want to give you a little instance there. At the lake hearing before the Interstate Commerce Commission of the various lines of railroad seeking to retain control of their lake lines the lines put on the stand Mr. E. T. Douglass, manager of the Western Transit Co., and Mr. Signor, the commissioner of the lake lines. They testified that it cost them 27 cents a ton to handle flour from the cars into the boats at Chicago and 27 cents a ton to take it out of the boats and put it in the cars at Buffalo, making 54 cents for the two handlings. I made it my business to ascertain if that was correct, and I found that they had yearly contracts with Connors of Buffalo to do their stevedoring on that basis, 27 cents per ton for flour, so they told us. Now, we had kept and really to-day are only keeping an actual account of our two handlings of all classes of merchandise. So we took one barge and loaded 27 carloads of flour in it at the dock and had our men keep an exact account, even down to the electricity used, and we loaded them from the dock at Kansas City into the barge and piled it up for 12 cents a ton. We took it down to St. Louis and ran it up over the conveyer through the house and into the cars and figured in every item of expense, even the lining of the cars with paper—flour cars must be lined with paper and the men must go around and drive the nail heads all in, and those things, every item, were figured in the cost, and we loaded those cars at 16 cents a ton, making the two handlings for 28 cents against the lake 54.

Judge BLAND. Do you know what the handling by roustabout labor is per ton?

Mr. POLAND. It is all according to the disposition of the roustabout. Sometimes you get it down to 80 cents a ton and sometimes $1.60; but usually it runs $1.20 to $1.40 a ton. When Mr. Cavanaugh, of St. Louis, was operating the *Edward Green* he brought up a barge of sugar from New Orleans and simply unloaded it from the barge onto the levee and piled it up on the rock levee of St. Louis, and I happen to know it cost him 80 cents a ton.

Judge BLAND. You say it depends on the disposition of the roustabout. You never saw any of them have a disposition to minimize the cost, did you?

Mr. POLAND. No; they sometimes hold you up when they have a chance; but it cost him 80 cents to handle his sugar from the barge and pile it on the levee and make levee delivery. Now, that same sugar could have come up on a barge to our dock at East St. Louis and been handled through the dock by conveyer for not over 30 cents a ton; could have been switched across to its final destination at Cupples Station in the Hutchinson warehouse, right where

he wanted it, right next to his elevator, for under 30 cents per ton for intermediate handling, which put it where the man wanted it, as against 80 cents a ton and putting it only on the levee where he had to pay 5 cents a hundred or a dollar a ton to haul.

Judge BLAND. A dollar a ton more?

Mr. POLAND. Yes. Now, in that case the rate on the sugar was 17 cents and I think they made a rate of 10 cents from New Orleans to St. Louis, to the levee. And 5 cents a hundred added to the 10 cents to get it into the warehouse, where he had the exact railroad delivery, which made the total cost or rate of 15 cents per hundred pounds, a saving of only 2 cents per hundred pounds on that cargo of sugar. Now, if they had carried that on, I will say, a scientific-rate basis—and when you take the present rate basis of the country it is scientific, and even if you charge a per cent of the rate you are still on a scientific basis—if they had charged them 80 per cent of the rate they would have saved the shipper 3.4 cents per hundred pounds instead of 2 cents per hundred pounds, and they would have put his sugar in his warehouse in perfect condition instead of its being piled out in the weather on a levee, and they would have made more money themselves out of it. So it would have been a saving all around. It is only the matter of the difference between river terminals and no river terminals.

Congressman BORLAND. The difference between modern methods and old methods?

Mr. POLAND. The difference between modern methods and old-fashioned methods—old-style methods of handling freight.

Col. ABBOT. I would like to ask whether that line of steamers on the Mississippi River would be afforded your dock facilities for handling their freight?

Mr. POLAND. They would not be afforded the facilities of our dock, but they could have made a dock of their own and should have had a dock before they began to operate, and very probably if they had had a dock they would be operating to-day; but they did not have the facilities.

Col. ABBOT. And if they were running in combination with your line for shipments to Kansas City, then they would have got the benefit of your terminals?

Mr. POLAND. Our dock. They were exactly in the same position as if a railroad would build from the city limits of St. Louis to the city limits of Kansas City and attempt to do business without any terminals. They made the big mistake of starting before they had terminals. Without terminals they could not succeed; they were foreordained to failure before they started.

Judge BLAND. Have you any knowledge as to the city of St. Louis' plant—the municipal dock and wharfage there? Are they very extensive?

Mr. POLAND. I know from the papers and from talking with St. Louis people that they are now planning and will go ahead and build another new belt line terminal there to cost about $300,000.

Judge BLAND. Mr. Coyle brought that out.

Mr. POLAND. Yes.

Judge BLAND. Senator Reed has some questions.

Senator REED. Just to conclude this terminal question, you feel now that you have advanced to a point where you have your terminal facilities practically completed at both Kansas City and St. Louis?

Mr. POLAND. Yes, sir; I would not want to put it that way, hardly. I would not want to say practically completed, Senator.

Senator REED. Well, in good working condition?

Mr. POLAND. Yes, sir. We are students and are improving that condition all the time; but we believe and we know that we have to-day the only and consequently the best river terminals on interior waters.

Col. ABBOT. And their capacity is comparable with the amount of freight now offered, is it?

Mr. POLAND. Our East St. Louis terminals are too small to-day. We will have to extend them this winter, possibly temporarily, while we see what St. Louis does; but we are not waiting for them. We will have to extend our terminals at East St. Louis this winter to take care of next year's business.

Col. ABBOT. That is one reason you were not willing to say they were completed?

Mr. POLAND. No; we are a long ways from completion.

Senator REED. Now, one further question as to intermediate points and such places as Jefferson City. What are your facilities there for taking on and putting off freight?

Mr. POLAND. None whatever. At Jefferson City we must deliver just below the bridge on the only practicable levee there is. The railroad has the entire water front at Jefferson City, except a strip of perhaps 150 yards in length just below the bridge, and which is filled up with shanty boats. That is the only place in Jefferson City to-day where we can get in with a steamboat.

Senator REED. Well, do the railroads in Jefferson City furnish switching facilities so that plants can be reached and cars loaded at the various plants of the city?

Mr. POLAND. They do not now; but the railroads at Jefferson City——

Senator REED (interrupting). If they were to do that then you could compel the use of those switches?

Mr. POLAND. Senator, we would not have to use the word "compel." The railroads to-day recognize this line as a factor in the transportation business, and if we had a terminal at Jefferson City with a track connection we would have no difficulty whatever in getting switching rates to all points around Jefferson City.

Senator REED. And that would be true now in other towns along the river?

Mr. POLAND. That would be true in other towns along the river.

Senator REED. What I am getting at is whether you have any wharf down there.

Mr. POLAND. There is none there; but the Commercial Club of Jefferson City and Mayor Thomas told me in February last that they would build a wharf within the next year.

Senator REED. How about other towns—Glasgow and other towns along the river?

Mr. POLAND. Glasgow has done nothing. Washington is now building a terminal.

Senator REED. Washington is building one, and if you had one at Glasgow it would be just that much more advantage to you, would it not?

Mr. POLAND. Oh, yes.

Senator REED. And so on down the river, as your business increases, the building of wharves will necessarily follow?

Mr. POLAND. Yes, sir.

Senator REED. And what is the disposition of these towns, speaking of them generally, to assist in that?

Mr. POLAND. The towns, speaking generally—there are a few dead ones—but generally speaking they are very much alive to the situation and are to-day seriously considering putting in terminals to invite us in.

Senator REED. Now, with all those conditions coming in, your ability to navigate the river and to handle freight at less cost will constantly be increased?

Mr. POLAND. Yes, sir. I will give you an instance——

Senator REED (interrupting). So that even the work of transportation on the river as it is is handicapped by the fact that you have not yet acquired all the facilities in the way of wharves?

Mr. POLAND. That is, increased development.

Senator REED. It is that that you need?

Mr. POLAND. It is something that we miss and must have, but it is something that is coming and will be done. But I want to give you an instance right there: At Jefferson City, Hermann, and Washington there are three large shoe plants. We have been offered and urged to take the business of those plants—the output of those plants—to St. Louis, and we have handled some thousands of cases of shoes; but in order to get those shoes we must go in with our barge and boat and tie up and wait until they haul from the factory, because there is no receiving plant there. There is no dock of any kind. Now, it is an absolute fact that very often it costs us more in lay-up time and expense of crew waiting there for that traffic than we get out of the traffic. It is more than our freight earnings.

Senator REED. Now, is there enough freight there to pay to build a receiving station?

Mr. POLAND. There is enough freight between St. Louis and Jefferson City alone to keep a good boat busy all the time, making two round trips a week to St. Louis.

Senator REED. You mean by that to say, then, that there is enough business to warrant the building of these receiving facilities?

Mr. POLAND. Yes; the business at Jefferson City alone.

Senator REED. So that, in a word, you are still handicapped by lack of these terminal facilities at the intervening points between St. Louis and Kansas City?

Mr. POLAND. We are.

Senator REED. And they are in process, to a greater or less extent, of being now put in?

Mr. POLAND. Yes; the subject is being agitated in all those towns.

Senator REED. And that has, of course, kept down your tonnage in its present condition?

Mr. POLAND. Yes; very largely.

Senator REED. Now, there was another question here. Perhaps I might elucidate it by the statement that the statement has been made here that you have not yet run at a profit. What is the fact with reference as to whether you are able to load your boats to their capacity on account of river conditions?

Mr. POLAND. Well, I will give you an instance.

Senator REED. Give me a generalization and then your instances.

Mr. POLAND. Well, I can speak on these instances a good deal more concretely than I can on generalization. If you gentlemen will go down to the dock to-morrow you will see a barge there loaded. The barge has in it 335 tons. We have loaded that barge to what our pilots tell us the lowest place of the river will allow, and we have loaded it to try to be safe and get through expeditiously. That barge should to-day be taking 500 tons down, and we can take the 500 tons from here to St. Louis just as cheaply as to take the 335. We have on track to go into the barge *Beta*, which is arriving to-day, 27 cars. Half of this should go into this barge that is going down on this trip, but we can not put them in; we haven't got the water. We have it from here down a distance, but when we get to Baltimore Bar, or get down, probably, around Stanley Island, or something like that, the channel branches out and divides into four or five channels, and we don't know where the best one is, and so we have got to load safe, and this barge will go out with 335 tons in it.

Senator REED. Now, does that condition, illustrated by that instance, occur frequently or habitually, or how often?

Mr. POLAND. Practically all the time.

Chairman BLACK. Mr. Poland, you speak about the minimum depth, which, of course, limits the depth of loading. Is there a very great difference in the depths on the crossings? Are there one or two or three or four points between here and St. Louis that are apt to be worse than others? Not the same point always, I don't mean, but I want to know whether those crossings have about the same average depth, or are always a few different from the others?

Mr. POLAND. Those crossings change. In the fall of 1913 and the spring of 1914 we had trouble at Stanley Island. That was a bad place. In the fall of 1913 we had a great deal of trouble at Isabel. Our fleet was at Isabel for a number of days. We unloaded a barge there on lighters and brought it up to Jefferson City and put the freight on cars and sent it in——

Chairman BLACK (interrupting). You don't understand me yet.

Mr. POLAND. Now, I was going to tell you this, that at Isabel the Government work is completed and there is 8 or 9 feet of water there in low water. Plenty of water there. It is a good channel all through there.

Senator REED. For how far?

Mr. POLAND. Well, 8 or 9 miles. I don't know where they do pinch out below there. It is quite a distance——

Senator REED (interrupting). How much work was put in there, now, to produce that improved condition at Isabel?

Mr. POLAND. I think the engineer can tell you about that. My impression is three dikes were put in there that must have been twelve to seventeen hundred feet long—big fellows—but they have done the work all right.

Chairman BLACK. Mr. Poland, you don't get my idea yet, or I can not get the information from you or from anyone else apparently.

Mr. POLAND. I will try to give it to you if I can.

Chairman BLACK. The Government has been carrying on this work progressively. It is perfectly understood, of course, that we can not do it all at once. The work must be progressive, and hence for a long time there will be reaches in the river, even if the work is pushed as hard as it can be, where there will be trouble. Now, we know these bars are shifting; but what I wanted to know is whether there is always in this intermediate reach one, two, or three points where temporary work would give marked relief, even if it were temporary, or whether those reaches have such uniform shallowness all the way through that you can not do anything by a temporary measure? Do you understand?

Mr. POLAND. I understand exactly what you are after. Those shallow places are becoming fewer each year. And each year there are one or two where a

little temporary work would be of great benefit. We have thought a dredge—there are no dredges in this river—to repair or to dredge out those few points would be the thing. That is an engineering proposition that I know nothing about; but they are becoming fewer each year.

Chairman BLACK. That is what I want to know. You can see if there were a very long reach of extremely bad water one dredge, or two dredges, or three dredges would not do any good; but if there are only two or three places each year, it may be, at various points of the river—but not more than two or three—which have to be cut through, then a dredge might be able to do some good. That is the information I have been trying to get. It is a temporary expedient, of course.

Mr. POLAND. The experience in 1913 was that there were several places. In 1914 several——

Chairman BLACK (interrupting). Several? How many?

Mr. POLAND. Say four or five or six in 1913; not over three—and I don't remember now of more than two—last year. But in none of those was the stretch long. It was a short portion of river—just a few hundred yards—but it was sufficient to put us out of business.

Chairman BLACK. Of course, as long as they are there. This year how many?

Mr. POLAND. This year there is only one that I know of that has given any trouble.

Congressman BORLAND. You have had exceptionally high water this year?

Mr. POLAND. Exceptionally high water this year. There has been an unusual stage of water. There was one gravel bar gave us trouble in 1913 that would have been dredge work; but, as I said a while ago, wherever this work is completed—wherever you engineers have gone into a bad piece of river; and you have gone into the worst pieces of the river—your work has been effective.

Chairman BLACK. Oh, I haven't any doubt of that at all. It is perfectly clear.

Mr. POLAND. At Isabel, after you completed that little piece of work, it gave us probably 10 miles of good river below—splendid river.

Chairman BLACK. Well, you have answered what I have wanted to find out.

Mr. POLAND. And we are getting less trouble each year.

Senator REED. In connection with that, there was a stretch of the river below Jefferson City improved some years ago, wasn't there?

Mr. POLAND. Yes, sir.

Senator REED. What are the termini of that improvement?

Mr. POLAND. Well, that is from the Gasconade, running up to about Jefferson City.

Senator REED. About how many miles? Approximately about 40 miles?

Mr. POLAND. About 40 miles; 38 to 40.

Senator REED. Do you know whether that was the worst piece of the Missouri River between here and St. Louis before that work was done?

Mr. POLAND. I do not. That was before my time.

Senator REED. Well, I think the engineers' reports probably show. What is the condition of that piece of the river to-day?

Mr. POLAND. Good piece of river. So far it has lasted. Before it was improved it was the worst spot in the river, and to-day that river from Stanley Island down to the Gasconade is splendid.

Senator REED. Where is Stanley Island?

Mr. POLAND. Up around Murray bend above Jefferson City.

Senator REED. So that work, put in there years ago—many years ago—has made that part of the river a success?

Mr. POLAND. Yes, sir; it is fine.

Senator REED. And it has remained so ever since?

Mr. POLAND. Yes, sir; we have had no trouble in there at all.

Senator REED. I want to go back to the question I had up with you before. I want to go into that question of the cost. Taking into consideration your experience in navigating this river with experimental boats and with the river in its unimproved condition, and your experience as to the result of the improvements that have been made, both in your boats and in the river, I wish you would tell the board what your judgment is as to whether this river can be navigated at a profit at the rate that you are now charging, providing the river is placed in navigable condition.

Mr. POLAND. I do not believe there is any doubt about that. There is not in my mind. I am only the traffic man, and not connected with the operating

department; but I have been at it four years—intimately connected with this company—and I know absolutely that it can be a big success. I believe that one factor means more to Kansas City than any other factor in her future.

Senator REED. But I am speaking about the profits of the boat line.

Mr. POLAND. The profits of the boat line—the boat line can be operated at a profit at even less rates than they are charging to-day.

Col. ABBOT. And on a larger scale?

Mr. POLAND. And on a larger scale; yes, sir. Mr. Mackie spoke about our building the big barges and how we had to back up onto smaller equipment. We ought to be operating the big barges and the larger boats. We should not be confined to a 600-horsepower boat operating on 3 feet of water. That has never been known before. We have had to do things that steamboat men said we could not do. We had to lighten the *Scott* last year to 30 inches or 32, or something of that kind. Those things ought not to be necessary. But on a 6-foot channel there is no limit to the amount of business we could handle.

Col. WINSLOW. Mr. Poland, there is one question I should like to ask you there: Has the business your line has been doing had any effect upon rail rates between St. Louis and Kansas City as yet?

Mr. POLAND. No, sir.

Col. WINSLOW. Well, that is not a surprise, as you have only been carrying about 30,000 tons.

Mr. POLAND. We would not expect to.

Col. WINSLOW. But if you multiply that by 10, is it not probable that the railroads would have to meet your rate?

Mr. POLAND. You are asking me—I have got an awful vision when you come to think of this thing and looking into the future. I have a great deal of confidence in this thing, and if I were to tell you what I thought of it it would take me all evening; but I want to say to you that water rates made Chicago. Chicago was at the western end of water transportation when the old trunk-line committee, thirty-odd or forty years ago, made New York and Chicago 100 per cent and based all rates on that stretch. It was because Chicago was the end of navigation. Now, I am just fanatic enough to believe that Kansas City is the western end of navigation to-day. She is at the bend of the river. The whole Southwest is tributary to Kansas City. Its tonnage, its business, is tributary to this town. I firmly believe that the future of Kansas City is unlimited, and it needs water transportation and water rates to make it—to make this the distributing center of the West. I can not see anything to it but that.

Judge BLAND. Supplementing the question of the member of the board there as to whether or not it had any effect on the railway rates——

Mr. POLAND (interrupting). Not yet.

Judge BLAND (continuing). Do you know why? Have you any knowledge of any contemplated action or of any testimony by railway-traffic men relative to the influence of the river upon the rail rate?

Mr. POLAND. In the interstate commerce hearings at Topeka—there were two interstate commerce hearings had there; that is, long and short haul hearings, where the railroads defended their rates. The western cities were claiming they should be on the same basis as Kansas City. The railroads defended the proposition on the basis that the rate to Kansas City was a water-compelled rate basis, and that she enjoyed the rates she had because of through water transportation to the Gulf. They submitted a lot of our tonnage figures. They based their present rate fabric on water competition in Kansas City. In another hearing of the same cases, coupled with one or two more, the general freight agent of one of the St. Louis lines made the statement that the water competition between St. Louis and Kansas City was a factor, and so great a factor that his department, or the traffic department of his railroad, had seriously considered meeting the water rates between St. Louis and Kansas City.

Congressman BORLAND. That was one of the lines between Kansas City and St. Louis?

Mr. POLAND. Between Kansas City and St. Louis.

Col. TAYLOR. If that happened, if they made the water rate, what would be the result? Don't that give the freight to the railroads?

Mr. POLAND. Not as long as we still have pencils to sharpen up and make some more rates.

Col. WINSLOW. Do you figure that you could still keep to the 80 per cent basis?

Mr. POLAND. I believe we can maintain the 80 per cent basis on any rate the railroad may make, provided you gentlemen stay with us.

Col. TAYLOR. You see, in many cases improvements are made, and they put the boat line on, and the railroads put their rates down, and then the boat lines go out of business, and the Government is then put in the position of having spent a large sum of money to bring about a reduction in railroad rates. There seems to be other ways of accomplishing that than by spending the Government's money.

Senator REED. The railroads can not do that under the Federal law.

Col. TAYLOR. They can put the rates down.

Senator REED. But they have to keep them down.

Col. TAYLOR. They have to keep them down, but nevertheless the boat line has gone out of business.

Senator REED. Colonel, you would have to consider this thing further, that whenever they reduce their rates to a point with some sinister purpose of that kind in view, immediately that becomes an evidentiary fact for the commission to reduce their rates to other points. It is material evidence against them at all other similar points. So that a general reduction is bound to follow, and the railroads can not do that any more.

Col. TAYLOR. But it has been done a good many times in the past.

Senator REED. A great many times in the past, when the railroads made their rates arbitrarily, when they made a rate to a certain point as they saw fit and to another point a greater rate, just fixing the rate to suit themselves. They could cut and cover themselves. But now, when the Interstate Commerce Commission is regulating all of these rates, and when a schedule of rates must be filed, it is perfectly manifest that if they file a rate to Kansas City way below what it was at similar points in the country, that would be used against them as evidence on all the other points and would result in a reduction everywhere. So that they can not stand it. Besides, when they lower a rate that way it can not be changed for two years; so it is too destructive.

Col. TAYLOR. But they do do that. Take the rates between New Orleans and Memphis. They are very much lower than the corresponding rates to points a little off the Mississippi River.

Senator REED. Oh, yes; that is because of water competition, based upon river-transportation rates.

Mr. POLAND. Wait! Let me answer that. There is no boat line on the Mississippi River between New Orleans and Memphis, or any other river——

Col. TAYLOR (interrupting). That is because of railroad competition.

Mr. POLAND (continuing)—to compare with this line, and I will tell you why from a traffic standpoint. They can meet the rate from Memphis to New Orleans to put the boat line out of business, but they can make their rates 4 or 5 or 6 or 8 cents higher than the river rate and still get business, because there is no boat line at Memphis or anywhere on the Mississippi River equipped to handle tonnage. They can only handle the freight hauled to them in wagons, and it would not pay any railroad company to go after a boat line's business of that kind. The amount of tonnage that could be hauled to or from a line by wagon would be so small that it would not pay a railroad company to go after it. Now, a boat line equipped as this boat line is, with terminals, and able to protect itself, knowing exactly where it stands before the law and the interstate-commerce law and the public-utilities law of the State of Missouri, does not have to fear anything of that kind. We have a standing; we have a right in court; and there is nothing to fear on that score whatever. It would be a much harder proposition to put a boat line out of business that had terminals and had an opportunity to reach the shipping public than it would be a boat line that was helpless and simply depended upon port-to-port business that came to them by wagon.

Col. TAYLOR. Still, isn't it a fact that rates are very much lower between New Orleans and Memphis than at off-the-river points?

Mr. POLAND. Yes.

Col. TAYLOR. The result is that it has put the boats out of business, no matter how little business they do. That is one reason——

Mr. POLAND (interrupting). Well, I maintain a boat line to-day can operate between Memphis and New Orleans by equipping itself properly and make money on the present rates. But they must equip themselves properly. The insurance rate on traffic between Memphis and New Orleans on the class of boats that are engaged in that traffic is $1.40 on the hundred dollars. That is enough to squeeze any boat line out of business, let alone any other competition. The insurance alone would eat them up. I do not believe the railroads are as

bad as some people think they are. I do not believe the railroads have done as much to put the boats out of business as they have been given credit for. I think the boats have put themselves out of business.

Congressman BORLAND. You think, then, that if the boat line is equipped to meet modern conditions of interchange traffic with railroads and with switch lines and has proper terminals operated at each port to lessen the cost, and with proper barges made fireproof so that they have proper marine insurance, and all these problems of modern transportation solved, you think it can hold its own now?

Mr. POLAND. I think so.

Congressman BORLAND. You think those facilities——

Mr. POLAND (interrupting). I think it can meet competition anywhere, no matter what the competition is.

Senator REED. Assuming, now, that the railroads, in order to put the boat line out of business, were to reduce their rates to a point where you found it impossible to compete, with the river as improved and the boat line improved to the point we hope the river will be improved and to the point that you contemplate improving your boat service—assuming that that was done, can you give this board any idea what it would mean in the saving of freights to the shippers of the great Southwest? Wouldn't it fix this river two or three times over?

Mr. POLAND. Well, if we could be assured that would be the case, I believe it would pay Kansas City to fix the river itself. If this boat line should be successful in putting Kansas City on a real and not a theoretical water-compelled rate basis, and the railroads put the boat line out of business, Kansas City would be forever the gainer and the West would be the gainer by it way beyond any cost of improving this river.

Senator REED. That would mean a reduction not only on the traffic carried on the river, but it would mean reduction on all kinds of traffic carried on the railroads?

Mr. POLAND. Yes, sir.

Senator REED. Now, there are one or two little matters I wanted to take up with you. You have spoken of ton-miles. I want to have in the record what you mean by ton-mile.

Mr. POLAND. Well, the carrying of a ton a mile. If we carry a ton from St. Louis to Kansas Clity, 408 miles, that is 408 ton-miles.

Senator REED. So that the mere amount of tonnage carried on a boat on the Mississippi River a distance of 150 miles is not comparable with the same amount of tonnage carried 408 miles?

Mr. POLAND. It is equal to less than one-half of the tonnage.

Senator REED. Of the mile tonnage.

Mr. POLAND. If, for instance, we carry 30,000 tons from St. Louis to Kansas City in the year 1915, which we will, we carry it 408 miles. Now, that is equal to 60,000 tons carried on the Mississippi River 200 miles, or from Cairo to the mouth of the Missouri River.

Senator REED. I am getting at a very concrete matter here. If boat lines operating on the Mississippi River from St. Louis to Cairo, a distance of approximately 150 miles, carried 265,000 tons of freight, if they carry that the same distance as the distance from Kansas City to St. Louis, which is 408 miles, it would amount to almost three times the tonnage properly estimated?

Mr. POLAND. Yes; two and a half times.

Senator REED. And when you carry 30,000 tons from Kansas City to St. Louis, a distance of 408 miles, it would equal 90,000 tons, or approximately that, carried from St. Louis to Cairo?

Mr. POLAND. Very close to it.

Senator REED. Now, another question I want to ask you in order to clear the record. You have stated that the percentage of high-class freight now carried by the boats is less than any former year. Is this because of the decrease in the amount of high-class freight carried or because of increase in the amount of low-class freight carried?

Mr. POLAND. The high-class freight has increased, but the low-class freight has increased so much more rapidly that it has brought down the proportion of high-class freight as compared with the total.

Senator REED. You are not, then, losing out on your high-class freight?

Mr. POLAND. Oh, no; it is gaining all the time. We have not lost a single shipper that I know of in the last four years. They have stuck to us.

Senator REED. You spoke of a rate which you undertook to have made a joint rate with the railroads on certain classes of goods to some point in the East. Where was that?

Mr. POLAND. Joint rate on flour and feed for export to Newport News and Norfolk, Va.

Senator REED. Yes; and you also said you had had a controversy with the railroads before the Interstate Commerce Commission, and that the Interstate Commerce Commission had ruled that the railroads must receive your freight on the same terms that they received the freight of other railroads.

Mr. POLAND. Exactly.

Senator REED. Now, what advantage will that bring to the boat-line company?

Mr. R. D. SANGSTER. Mr. Poland, may I, in order to get that question fully answered, ask Mr. Poland to make clear to the board here, now, just what this case was?

Mr. POLAND. I think I have done that.

Mr. SANGSTER. Was that the case of the Kansas City Missouri River Navigation Co. against the Chesapeake & Ohio Railway Co.?

Mr. POLAND. Yes, sir.

Mr. SANGSTER. Decided May 11, 1915?

Mr. POLAND. Yes, sir.

Mr. SANGSTER. Found in the thirty-fourth volume of the Interstate Commerce Commission's reports at page 67?

Mr. POLAND. Yes, sir.

Mr. SANGSTER. Now, what are the facts that caused you to go into the trial of that case—in detail?

Mr. POLAND. I explained that, I think, pretty thoroughly to the board a while ago; and it would be a repetition.

Mr. SANGSTER, Oh; I was not here, I guess.

Senator REED. Yes; I did not mean to repeat it, but you explained to us that you had gone to the commission and had gained a decision in your favor.

Mr. POLAND. Yes.

Senator REED. And I wanted to know to what extent that would increase the profits of the boat-line company, and what advantage it would give the boat-line company in the making of rates to its customers?

Mr. POLAND. It is not so much an advantage to the boat line as it is to the customers of the boat line. It enables the shippers of the boat line to reach an additional Atlantic port. Up to that time——

Senator REED (interrupting). What is the differential?

Mr. POLAND. Two cents.

Senator REED. Does that mean a saving to each shipper of that class of goods of 2 cents per 100 pounds?

Mr. POLAND. The differential of that port by rail is 2 cents under the combination of rates on East St. Louis; but via the boat line the saving to the seaport is 1.8 cents; practically 2 cents.

Senator REED. That means that much on each 100 pounds?

Mr. POLAND. On each 100 pounds.

Senator REED. Now, is that small amount on each 100 pounds, does it run into large figures and is it sometimes a controlling factor in the matter of getting freight?

Mr. POLAND. I explained to you that Minneapolis had a 2-cent differential under Kansas City. This boat-line rate puts the Kansas City shipper within 0.2 of 1 cent of the Minneapolis rate, which is practically the same rate——

Senator REED. Is that an important factor now?

Mr. POLAND. Very important.

Col. ABBOT. You mean this decision now puts Kansas City within 0.2 of 1 cent of Minneapolis competition?

Mr. POLAND. Enables the Kansas City shipper, shipping via the boat line and for export through Newport News and Norfolk, to practically meet the Minneapolis competition on their through water rate via the Great Lakes.

Col. NEWCOMER. The ocean rate from Norfolk is higher than New York, isn't it?

Mr. POLAND. Yes, sir.

Col. NEWCOMER. Doesn't that again lose you the advantage?

Mr. POLAND. No; it does not for this reason: Newport News and Norfolk have no lake-and-rail rates, but there were all-rail rates in there, and the all-rail rate from Kansas City through Newport News and Norfolk was 22

cents. The Minneapolis rate was 20 cents. Our shippers were 2 cents higher on that particular port. Now, the rate is 20.2 cents, which practically meets the competition.

Col. NEWCOMER. Well, I understood the Minneapolis rate to New York——

Mr. POLAND (interrupting). The same condition prevailed at New York. The accepted combination of rates at East St. Louis via lake and rail very closely meets the Minneapolis situation, but not to the other ports.

Senator REED. That is all I desire to ask.

Mr. SANGSTER. Mr. Poland, did you make it clear to the board that the rates on grain and grain products from territory west of the Missouri River, going to the Mississippi River and beyond, make upon Kansas City combination?

Mr. POLAND. No; we had not said anything about that combination on Kansas City.

Mr. SANGSTER. That question was put to you by the chairman or some of the other members of the board, as to how the rates made on that combination, and I do not think your answer made it clear enough so that they will understand it. But this is the rate-breaking point on eastbound grain and grain products from the Missouri River and territory west, the same as in the case of the class traffic moving west from territory east upon the Mississippi River combination. In other words, my point is this: That I would like to have you make clear to the board, if it is your understanding—assuming that you are familiar with the rate adjustment in this territory—that on all the rates upon grains on the Missouri River and beyond, moving between Kansas City and St. Louis upon which the boat line would make a rate of 80 per cent of the rail figure, that that same relative saving would apply upon all of the traffic consigned through Kansas City in connection with the boat line, in care of the railroad lines beyond St. Louis.

Mr. POLAND. Before you came in, I think, I stated to the board that that was the case; that this entire western territory could feed the boat line through Kansas City and save the boat-line differential.

Chairman BLACK. That was done. We understand that.

Congressman BORLAND. Very well, then, Mr. Poland, there is nothing more.

(Witness excused.)

Congressman BORLAND. I will say to the board that I promised to call Mr. Goltra now, and then Mr. Burkhart, of St. Louis. It is our desire to give every opportunity to all these gentlemen who have anything substantial to say on this subject. I will call, after that, Prof. Moulton, in order that we may have a full hearing upon behalf of all persons who are interested; but I am varying the order for the convenience of these gentlemen from out of town. Mr. Goltra.

EDWARD F. GOLTRA, called as a witness, testified as follows:

Congressman BORLAND. State your name, please, to the stenographer.

Mr. GOLTRA. Edward F. Goltra.

Congressman BORLAND. And you live in St. Louis?

Mr. GOLTRA. Yes, sir.

Congressman BORLAND. What is your business, Mr. Goltra?

Mr. GOLTRA. My business is iron. I am president of the Missouri Iron Co.

Congressman BORLAND. I would like to have you explain, Mr. Goltra, as a business man of St. Louis first the attitude of the shipping public of St. Louis toward the maintenance of this improvement of the Missouri River, and, second, the plans, if any, now existing at St. Louis for creating there an industrial center that will have exceptional units for the waterway transportation to the interior of this country. First, I would like to have you express, if you can, the feeling of the business men of St. Louis toward this project.

Mr. GOLTRA. The business men of St. Louis are deeply interested in the consummation of the plan to rehabilitate the barge business on the Missouri River. We realize fully that we can get no lower rates by rail transportation than we obtain now. We need lower rates, and therefore we are compelled to look to this river-improvement plan in order to obtain them. We realize that with the carriers one after another going into the hands of the court as a result of the rates which now obtain that we can not expect, at least for some time to come—that is, until the tonnage has increased in a great proportion to what it is now—any lower rates by rail transportation.

Congressman BORLAND. That is to say, that the Interstate Commerce Commission would not arbitrarily fix some lower rate in the absence of some active

competition by river? It would not force the railroads, if river transportation is eliminated, to lower their rates?

Mr. GOLTRA. Probably I had better answer that question, Mr. Borland, by stating this homily: The man that fools himself is the worst-fooled fellow after all.

Each month there goes in to the Interstate Commerce Commission a statement of each one of the railroads doing business. We now know exactly what they take in over their counters and what they pay out over their counters, and we know that the cost to them to produce this thing that we call rail transportation is a figure which, considering the amount they have coming in to them by reason of the rates which now obtain, that the difference between the two will not permit, until there is a great increase in traffic, lower rates by rail transportation. There is no need of our fooling ourselves, gentlemen, on that proposition at all. That is just as clear as can be. So we see, and we think we see clearly, that in order to get lower rates we have got to go to river transportation. That is the reason why the business men of St. Louis are so deeply interested in the success and in the rehabilitation of barging facilities on the Missouri River.

Mr. SANGSTER. May I interrupt you at this point? What you say amounts to this, that although the railroads have increased their rates, and their business is increasing, yet their operating expenses outrun what they earn; that is, the expense of operation is greater to-day in comparison with their gross earnings than ever before in the history of the railroads?

Mr. GOLTRA. Yes; it costs more for labor, more for material; and the requirements for safety appliances have increased; so that it costs more to operate than it has heretofore.

Mr. SANGSTER. Is it not true that the railroads are unable to introduce such economies in the handling of traffic as to hold out any possibility of a lower rate level in this territory?

Mr. GOLTRA. That is a patent fact and apparent to any man who will take the trouble to make an honest investigation.

Mr. SANGSTER. Mr. Goltra, are you familiar with the increase of density of freight traffic in this western trunk-line territory in recent years?

Mr. GOLTRA. I am not sufficiently versed in it to speak dogmatically. I know in a general way as to the amount of tonnage that moves through the Mississippi River gateway, so to speak. I suppose you are familiar with it. It is about 11,000,000 tons.

Mr. SANGSTER. It is stated in our brief that it is 11,000,000 tons; but do you know what it was in 1906 for the same railroads?

Mr. GOLTRA. I can not state exactly as to what the figure was in 1906. I have not here your brief, and therefore my information does not come from that source, but from other sources.

Mr. SANGSTER. Do you know what the relation of the tonnage handled in 1906 by these carriers was to the tonnage handled in 1914?

Mr. GOLTRA. No; I do not know that proportion of relation.

Chairman BLACK. May I suggest that the time is getting short, and we had better let the witness cover that?

Congressman BORLAND. Yes; Mr. Sangster is going on the stand.

Now, Mr. Goltra, please give us an outline of the industrial situation in St. Louis, as to how the industries stand on this river question.

Mr. GOLTRA. May I proceed along my own line?

Congressman BORLAND. Yes; take your own way of doing it.

Mr. GOLTRA. As I understand it, the question as to whether the physical can be produced has already been settled; that is, physical in the sense of a 6-foot channel between Kansas City and St. Louis—that is not up for discussion. I understand also that the amount of cost to materialize that physical has also been settled approximately for us; so that it is not a matter of discussion. Consequently we come to the report of Col. Deakyne, and after having read that report carefully it seems to me that the only question that is before us is that which is contained in section 14 of this report. I see nothing else to this immediate hearing, no other occasion for its having been called, other than to take up that section 14 and either successfully combat it or admit that we can not.

In that section, not to use his words but to use mine, he states that the whole question resolves itself into whether the tonnage does exist; and if the tonnage does exist, whether there is sufficient to warrant this proposed outlay.

Reading down further in the section you will find that he makes his whole conclusion and bases his whole report on what obtains in the strip of river between St. Louis and Cairo, where for the last three years we have had 6 feet of channel constantly and sometimes more. He shows that some 260,000 tons of freight is the total amount that has been moved on that strip of the river. He states that in order to warrant the Government making this expenditure that that amount would have to be increased one hundred fold. Now, the officer, I think, is mistaken. If it were to cost twenty millions to materialize a 6-foot channel between Kansas City and St. Louis, and if it were to take a Government issue in order to raise the money, that Government issue would readily be taken on the basis of the rate at which we put out our currency, which would be 2 per cent. That would mean a cost in the neighborhood of $400,000 overhead on account of the money that had been expended. He said that to maintain the channel it would take—I think he said $500,000. Is that correct, Mr. Borland?

Congressman BORLAND. $500,000 for maintenance and $600,000 for interest on the whole amount.

Mr. GOLTRA. So that would mean that the actual cost to the Government would be in the neighborhood of $900,000 to $1,000,000.

Now, let us say the barge line is now receiving something like $11 a ton on textile fabric commodities between St. Louis and Kansas City and the rate on the very lowest commodity, pig iron, is $2.05. They are making a rate of 80 per cent of the rail rate, so that the actual saving is in the neighborhood of 82 cents per ton of freight moved to the shipper throughout the valley—82 cents a ton. If only 1,000,000 tons were to be moved on this proposed waterway, it would nearly pay what this gentleman admits himself would be the cost; and in view of the fact that we have passing through the gateway at least approximately 11,000,000 tons of the lower grade of freight, which would be applicable especially to river transportation, which is generally estimated at about 20 per cent, plainly there is in sight the tonnage necessary, on his own figures, to warrant the expense.

Now, then, speaking of the iron and steel industry and the allied industry, which is coke and fuel, in St. Louis we are now about to incorporate a concern for the purpose of putting Missouri on the pig-iron map again, so to speak.

Kansas City and the Kansas City zone or territory, which would include Topeka, St. Joseph, Omaha, Atchison, and the other somewhat similar towns, are smelting now in the neighborhood of 1,000 tons of pig iron a day, and that pig iron is moved from Birmingham, Ala., at a freight rate of $4.75 or $5.75—it is $3.40 from Birmingham to St. Louis, and the rate is $2.05 by rail from St. Louis here, so I imagine it would come up through Memphis at a little less, but St. Louis, owing to a change, which Col. Deakyne was probably not aware of, now becomes a point where iron can be smelted at the same cost that obtains at Birmingham, Ala. To some of you gentlemen that statement will possibly be a little bit startling, but it is a fact, and we now are going to erect at Carondolet, on the river bank, a modern blast furnace and will have this market up here to supply. We want a better rate than $2.05 a ton, and the people here should have a better rate than $2.05 a ton on the 500 tons of pig iron a day which comes up into this territory. With that pig iron will also flow the fuel necessary to smelt the iron, which will approximate about 400 tons a day. Col. Deakyne, I am sure, did not realize that the materialization of that 6-foot waterway was the "impelling cause," as you lawyers say, for the establishment of one of the largest by-products, coking coal plants, in the country at South St. Louis. That has lately, Colonel, been put in by the Laclede Gas Co., and they are producing metallurgical coke in St. Louis to-day, so that they are offering it to our proposed, and not only proposed, but an industry which is about to be announced—coke, metallurgical coke—at a rate such that St. Louis will be able to produce pig iron at a less cost than it is possible to produce it in Chicago or Pittsburgh or Cleveland.

Judge BLAND. You are a practical iron man, Mr. Goltra; that is your business?

Mr. GOLTRA. Yes; that is my business, and I understand it, I think, from the ground up.

Col. FLAGLER. Where does the ore come from?

Mr. GOLTRA. The ore we are proposing to use will come, in its inception, from Waukon, Allamakee County, Iowa, about 13 miles back from the river. We have put in a branch road up into the mine, and it has been opened up. This is not a dream, this is an actual reality.

Now, gentlemen, confining my remarks to this section 14, it seems to me that is all there is in this matter here, because we know that if the channel is materialized that we can transport in bulk freight very much cheaper than it is possible to transport it by rail.

Confining my remarks to section 14 in Col. Deakyne's report, you must take into consideration this: Upon the Mesaba Range on the northwest coast of Lake Superior the Steel Corporation has about 1,300,000,000 tons of ore. The Great Northern Ore Association has about 300,000,000 tons of ore. That seems at first blush as almost inexhaustible, but when I tell you that they are taking from those deposits there about 78,000,000 tons each year, and it now is becoming necessary to put in concentrating plants so as to refine the ore, you will begin to understand what the possibilities are as to future tonnage for the Missouri River, especially when I tell you, also, that at the Sunrise deposit in Wyoming and in Colorado the time is not so far distant when they will be railing the ore from that section down to Omaha and bringing it down by this Missouri River into market.

Kansas City, in order to have a 6-foot positive and permanent channel, Col. Black, with all of this territory to the west, southwest, and immediate northwest, in my opinion, could well afford to undertake the materialization of this improvement of the river itself. But it would be almost impossible to get Kansas City and the territory out through here to underwrite a $20,000,000 issue for a materialization of that sort. The difficulty which Illinois has had in getting the entire State to take on a $5,000,000 issue is known to you all. Therefore there is but one thing to do, and that is to look to the Government.

And in conclusion, I want to say this, gentlemen: I consider this the most important meeting that is being held in the United States to-day. If you should decide to adopt Col. Deakyne's report, it will have, sir, a very, very serious effect on all internal waterway improvement projects and plans; it will be overwhelmingly discouraging. While, on the other hand, if, after you have heard the evidence, you decide that Col. Deakyne was not right in his conclusion, there is no one in this room that can tell what and how great will be the beneficial effects of your decision. If you are in doubt, as a citizen I say to you that as a business proposition pure and simple, an economic proposition, you should decide to recommend to the Congress that this plan be supported. It would be far better for the Government to have lost this 13, 15, or 18 million dollars, in my opinion, if it is to be lost and if the scheme is not feasible, than not to have tried it at all.

Have you any more questions, Mr. Borland?

Congressman BORLAND. No, sir; I think you have covered it thoroughly.

Mr. SANGSTER. The rate on pig iron from Birmingham to Kansas City is $4.96 per ton of 2,240 pounds as per M. P. Washburn's tariff, I. C. C. 107?

Mr. GOLTRA. I would like at this point to make a suggestion, which may be worth while, which has just come to me, Col. Black. It may give you a better mental grasp of this thing as we see it out here, and therefore I will state it. The river belongs to the Government. If Uncle Sam will not improve this river—and I would be one of the first and the last to object to his doing what I am talking about now—what I propose to state to you. If Uncle Sam will not do this, if he would turn over this Missouri River to the men of Kansas City and the men of St. Louis and say to them, "You can have that river and the exclusive right for transportation on that river for a period of 99 years," I will undertake to say that within 30 days there could be formed a body politic by the business men of St. Louis and Kansas City that would underwrite the entire proposition, and at the end of that period, Col. Black, of 99 years, the surplus earnings of that corporation would be simply enormous, in my opinion.

(Witness excused.)

HARRY BURKHART, called as a witness, testified as follows:

Congressman BORLAND. Kindly state to the stenographers your name in full and your residence and occupation.

Mr. BURKHART. Harry Burkhart; the Standard Saiitary Manufacturing Co. of Pittsburgh.

Congressman BORLAND. You manufacture bathtubs and kindred products?

Mr. BURKHART. Yes, sir; enamel ware.

Congressman BORLAND. And you are located in St. Louis?

Mr. BURKHART. Yes.

Congressman BORLAND. And you are a shipper by river, over the line of the Kansas City Missouri River Navigation Co.?

Mr. BURKHART. Yes.

Congressman BORLAND. Now, Mr. Burkhart, will you please go ahead and state your story briefly to the board.

Mr. BURKHART. I am going to take up but a few minutes of your time, to show what has been done in the transportation of one commodity, that is, plumbers' enamel ware, such as bathtubs and sinks and lavatories. Our main plant is at Pittsburgh, with a subsidiary plant at Louisville. About 90 per cent of our product that goes from Pittsburgh to the West, St. Louis, Kansas City, and to the foothills of the Rockies, is manufactured in Louisville.

We had what we thought was a high-freight rate, and I came in contact with or heard of this Kansas City Missouri River Navigation Co. and it was about in June of this year that I thought I would try it out, and to make a long story short, since that time we have given them 40 cars which have been exclusively shipments into Kansas City. The freight rate by the boat has been a saving of from $12 to $15 and as high as $18 a car from Louisville through to Kansas City. And we have not been selfish in that. The Kansas City merchants, the Kansas City jobbers, through their clients, have reaped every dollar of benefit from the fact that we have allowed them the full-rail rate, and I think it will bring the matter more to a head when I tell you that in the matter of a carload of plumbers' enamel ware, that $12 or $15 or $18 a car, according to the class of commodity, the class of material, represents all the way from one-fifth to one-twelfth of the absolute profit on a car, and I do not think that I need bear further on that when I state that this amount of money, handling the freight in carload lots, represents, according to the class of commodity, from one-fifth to one-twelfth of a carload profit handled by the jobber in distributing it. We have got to take that into consideration.

From Kansas City to the foothills of the Rockies, and the other shipping centers, we distribute from 200 to 250 carloads a year, and that is an enormous saving, and it is almost like a cry from the wilderness to come from Pittsburgh and St. Louis here to Kansas City and put before you what it means in the distribution of material from the East into the West.

If interstate-commerce connections can be made with through-traffic lines, in connection with this boat line, from Louisville to Cairo and from Cairo to St. Louis, the saving will not be $12, but will go to $23 or $27 on a carload of material. And I might state right here that we have up with this boat-line company at the present time a project—and not wishing them any bad luck, but we hope they will have to go to Paducah this winter to repair their boats, because if they do they have promised to run as far as Louisville and take on three full barge loads and bill them all the way through and distribute at St. Louis and intermediate points and into Kansas City.

I believe it was stated that 30,000 tons was the amount carried this year by the boat-line company?

Congressman BORLAND. Yes; about 30,000 tons.

Mr. BURKHART. In round numbers we have given them 40 carloads since last June, and I can guarantee them one-third of their carrying capacity of this year if we could be assured of regular running time. Our commodity is, like all others, one that can be ordered a week or so ahead of time of use, and if interchange can be made between railroads and their boat line, the whole West is open to us to the foothills of the Rockies; whereas, at the present time, our products shipped to the coast, go by way of the Atlantic Ocean.

Now, I am not talking about this saving in freight from a selfish point of view, because we have never considered that as a matter of our own up to the present time. I mean by that, gentlemen, the saving of $15 on a car, and we have billed through, allowing the full-rail rate on our shipments, giving the jobber an advantage of $12 or $15 or $18 a car on the freight shipped from Louisville to East St. Louis and via the navigation company to Kansas City.

And we sincerely hope that this board will take thoroughly into consideration the matter, and I fell that if other shippers will come here and explain to you the growth of what they could give this boat-line company upon the assurance of this board and of the Government that they will give us a stage of water that we can rely upon, shipments will increase 100 fold. The tonnage is there, more than the river can carry, much more than this one boat line can carry.

I have heard it remarked and whispered around that this was all in the interest of this Kansas City Missouri River Navigation Co. Gentlemen, if that

river has a 6-foot channel from St. Louis to Kansas City, this one boat line can never do it all; there will be lots of competition, and I speak only from the standpoint of one shipper when I say that I can route over that line alone one-third of their entire commerce for this year.

I went down from Kansas City to St. Louis on the boat, and I think at a time when the river was at rather full stage. We left Saturday at 1 o'clock and landed in St. Louis at quarter after 5 Monday evening, running daylight only. It was a matter of actual running time of about 31 hours, and from that should be deducted about 1 hour on a sandbar and about 2 hours for oiling, making the actual running time, if you could go right straight through, about 27 hours.

I have another instance which I would like to bring before you and I can mention the name of the firm; it was the Kansas City Pump Co. In shipping via the Kansas City Missouri River Navigation Co., we must transfer our freight at St. Louis from the car to the barge, and at Kansas City from the barge to the car. In loose shipments, such as sinks, we stack them in straw and we block off a part of the car, and the balance of the car is loaded with crated material; and that class of freight can not be transferred from the car into a barge.

The Kansas City Pump Co. had in an order for all crated material and an order for a carload of mixed material out of Louisville on the same day, and they had one car shipped by the boat line and one car all rail, and I wish to state that the car shipped over the line of the navigation company was put into the switch of the Kansas City Pump Co. in the neighborhood of 27 hours quicker than the all-rail shipment.

I do not think with the river—with the channel of the river navigable so as to permit these men to run their boats day and night, that there would be any difference whatsoever that would weigh upon it, as far as time was concerned, in shipments between Kansas City and St. Louis or any other point where the running would be straight ahead.

Going down on that trip we left here Saturday at 1 o'clock and we laid up at about 8 o'clock, and we started away Sunday morning about half past 5 or a quarter of 6, and we laid up at Jefferson City at about half past 7 and we left Jefferson City and the boat was in St. Louis, docked, at, I guess it was, about 6 o'clock Monday night.

Now, gentlemen, that was on a stage of the river which these people are asking you to appropriate the money to create, and I am sincerely in the hope that every shipper, every man that puts a product from the East to the West, that goes beyond St. Louis to Kansas City, or if it has to pass through Kansas City, I hope he will take this grand opportunity of coming before you gentlemen and telling just what it means to this section of the country and what it means to his trade. I thank you.

Congressman BORLAND. We are very much obliged to you, Mr. Burkhart.

(Witness excused.)

Congressman BORLAND. Mr. Anderson, I understand that you can not be here to-morrow?

Mr. ANDERSON. No; I leave to-morrow morning.

Congressman BORLAND. Then you may take the stand now.

J. W. ANDERSON, called as a witness, testified as follows:

Congressman BORLAND. I expected to take up to-morrow the Kansas City shippers, but as you say you can not be here, Mr. Anderson, please state your full name to the stenographers.

Mr. ANDERSON. J. W. Anderson.

Congressman BORLAND. You are manager of the Kansas City Kornfalfa Feed Milling Co.?

Mr. ANDERSON. Yes, sir.

Congressman BORLAND. You deal in alfalfa meal products?

Mr. ANDERSON. Yes, sir.

Congressman BORLAND. And your market for those alfalfa meal products is South and East?

Mr. ANDERSON. Yes, sir.

Congressman BORLAND. You bring in your alfalfa from the West and you mill it here and then your products go South and East?

Mr. ANDERSON. Yes, sir.

Congressman BORLAND. Is that the idea?

Mr. ANDERSON. Yes.

Congressman BORLAND. So your shipments would be out-bound shipments from Kansas City over the Missouri River, if you used the river?

Mr. ANDERSON. Yes.

Congressman BORLAND. Please explain to the board what you explained to me about the rates on your product being based on Cairo instead of St. Louis and the necessity of a readjustment of the rates; just explain to the board the volume of business of that kind at Kansas City and the effect of the rates.

Mr. ANDERSON. Eighty per cent of the all-rail rate from here to St. Louis gives a rate of 6.4, or a saving of 1.6 per hundred, equaling 32 cents a ton, or $6.40 on a 20-ton car. We now enjoy that saving, which is used for our own benefit or for that of our customers. We give it to him in the matter of getting business. We enjoy that saving on eastbound business, but we do not enjoy it on southeastern business. The all-rail rates are made up by a combination with lines of carriers which takes away almost 1 cent of the 1.6 cents saving we make from Kansas City to St. Louis. In other words, on a shipment to Birmingham, which would take a rate of 31 cents all-rail, we are only able to make a rate of 30.4 cents by Missouri River and rail from Kansas City to Birmingham.

If the railroads in the Southeast would accept freight from the Kansas City Missouri River Navigation Co. on the same pro rata basis that they do from the railroads running from Kansas City to St. Louis, we would then enjoy the full saving in the rate from Kansas City to St. Louis, which is 1.6 cents.

Now, the business we have given the Kansas City Missouri River Transportation Co., the navigation company, this year, has totaled about 1,840 tons—92 car loads—that represents the tonnage that we have given the navigation company as applying to our eastern business, and our eastern business is not more than 30 per cent of our entire business, so that we have not had the opportunity of favoring the boat line with as large a percentage of our entire tonnage as we would like to. If we were able to use the river for shipments to southeastern territory we could give the boat line, conservatively speaking, 80 per cent of our tonnage. Our tonnage last year was nearly 28,000 tons, and we are looking for a 10 per cent increase in our gross tonnage this year. That would equal a tonnage of 20,000 tons that we could give the boat line in the ensuing year.

We are extremely anxious to see the boat line succeed and the improvements carried out.

To show you the effect it has in getting business, we made a slight mistake in soliciting business in the Southeast, figuring that the figure we make up to St. Louis would apply on southeastern business, the same as on eastern business, and we immediately had responses from a great many of our customers in the Southeast because of that saving we expected we could give to them as an inducement to get their business; and on the business we accepted on that quotation we sold at a slight loss. I mention that fact to show you that our trade in the Southeast will bring more business to me if I can give them the saving that the river transportation will bring to me. Now, that only applies on the saving up to St. Louis. If you will extend that river transportation to Louisville, Memphis, Pittsburgh, and New Orleans, the saving grows as the water transportation is extended.

Eighty per cent of the 19-cent rail rate to New Orleans means a saving of 3.8 cents per hundred or 7.6 cents a ton, and 7.6 per ton is a larger profit than I made last year of the total tonnage going through our mills. Our business is a tonnage business strictly. The profits are small per ton, and you must swing a large tonnage in order to make the industry a success. I do not think there is another single industry where 20 per cent of the rate to a point like New Orleans would probably cover 100 per cent of the profit of the business.

It is of great importance to my industry for that very reason. We look upon the boat line as a kind of savior in equalizing some of the benefits the other markets have which we do not enjoy here. St. Louis and Chicago have benefits by reason of water transportation that we have not enjoyed, and when river transportation comes on the Missouri River we will welcome it, because it means it will help us get business and help us run our business and make it more profitable. I think it is safe to say we can give the Kansas City Missouri River Navigation Co. 20,000 tons a year, and I mention that fact because tonnage seems to be important in determining whether the expenditure on the part of the Government would be wise.

I am only a small industry in this large feed business. We feed animals, and the business runs in large ton figures.

Congressman BORLAND. Where do you get your alfalfa from?

Mr. ANDERSON. We draw it from Kansas, Colorado, Nebraska, and Wyoming. At the present time I am also president and manager of the Basin Alfalfa Milling Co., which this year has operated three mills in the Big Horn Basin, in Wyoming, and river transportation will figure materially in the profit we get from those mills.

Congressman BORLAND. How much, or how large, is the milling industry in alfalfa in this vicinity? You are only one mill here, are you not?

Mr. ANDERSON. Yes. I do not like to enlarge these figures too much, because the board will think we are all boosters, but I think I am safe in saying that there is a tonnage of at least 100,000 tons of alfalfa meal alone, and that is only one ingredient in our product. We are manufacturers of meal of which alfalfa represents 30 per cent, but there is a tonnage of alfalfa meal alone, which is the first prime product of alfalfa ground into meal throughout the West and which comes into the central markets, where the meal is mixed with other feeding meal, so the alfalfa-meal tonnage is approximately 100,000 tons. Kansas City does not by any means represent the total tonnage of the alfalfa-meal business, but is only a starter.

Col. NEWCOMER. Do you say that river transportation would figure in bringing that tonnage to Kansas City from the western territory?

Mr. ANDERSON. This tonnage coming from the West does not stop at Kansas City, and any saving we can make by water transportation enhances the chance of marketing. We market our product from Portland, Me., to Miami, Fla., and back again to San Antonio, Tex.

Col. NEWCOMER. Who gets that product?

Mr. ANDERSON. The Boston team owner and the Georgia mule owner.

Senator REED. If this boat line was wiped out of existence, what would be the effect on your business?

Mr. ANDERSON. Well, it would materially affect our business in this respect: On the 1,840 tons which we have given the boat line this year we have effected a saving of 32 cents a ton, or probably one-third of a dollar per ton.

Senator REED. That is all.

(Witness excused.)

CHESTER NEWMAN, called as a witness, testified as follows:

Congressman BORLAND. State your name to the record.

Mr. NEWMAN. Chester Newman.

Congressman BORLAND. Mr. Newman, you are the manager of the National Aniline & Chemical Co.?

Mr. NEWMAN. Yes.

Congressman BORLAND. Explain to the board the effect of the boat line on your business.

Mr. NEWMAN. Our tonnage is of such a nature that we can only give a part of it to the boat line at any time. At the present time it only runs about 50 tons per month by the river, but with the better service which this improvement which is projected will give, I should say that, conservatively, it ought to be 250 tons a month.

There are four other concerns in this line of business in the city, and I should say that the total would multiply that tonnage possibly by 3, which would bring it up to 750 tons a month.

Congressman BORLAND. Mr. Newman, we are entitled to assume that if this project is approved and carried out, that there will be established here a permanent 6-foot channel in the river, which will enable the boats to have daily sailings from Kansas City to St. Louis and back, and that the running time should be 72 hours upstream from St. Louis to Kansas City and 27 hours downstream. Now, under those circumstances, how much of your tonnage could you give to a boat line operating in that manner on an improved and perfected channel under the conditions I have described?

Mr. NEWMAN. I should say that the tonnage we could give them would run, conservatively, 250 tons a month.

Congressman BORLAND. What is the class of your tonnage?

Mr. NEWMAN. It varies from first class down to quite low. The average rate per ton, I should say, would be about $3.50.

Congressman BORLAND. You are a manufacturer?

Mr. NEWMAN. Practically all of this is a jobbing line.

Congressman BORLAND. That is all.

(Witness excused.)

Judge BLAND. If the board please a moment, in introducing these witnesses as to the tonnage we are not taking the aggregate tonnage of Kansas City, but are selecting different men, this in the chemical line, another feed, another harness, another drugs, another groceries, etc., extending over the whole class of business in this territory, and not exhausting each class, but just taking time enough to give the committee an estimate of the general extent to which boat-line traffic may be extended, by selecting the different lines of business. I merely mention that because we have had an alfalfa man and a chemical man, and they are representative in their lines of business in Kansas City.

The following letter was submitted to the board:

"LOOSE-WILES BISCUIT CO.,
"*October 19, 1915.*

"*The Board of Army Engineers, in session at Kansas City, considering report about improvements on the Missouri River between Kansas City and St. Louis.*

"GENTLEMEN: In connection with this hearing, the undersigned company operates a large establishment in Kansas City for the manufacture of crackers, biscuits, candy, and similar food products.

"Our company has an annual volume of sales at this point of approximately $4,500,000. An investigation of our traffic records shows that for the 12 months preceding October 1, 1915, we shipped into Kansas City from eastern points freight equal to 3,993 tons, a large portion of which was from such origin and of such class that it could have moved via St. Louis and been transported by the boat line from St. Louis to Kansas City.

"We have estimated that if there is a regular schedule of sailings from St. Louis to Kansas City on an improved channel which would insure shippers efficient service and prompt delivery, we could increase our tonnage to the boat line some 2,500 or 3,000 tons more than we have shipped during the past year. This company also maintains a large factory at Omaha, Nebr., a considerable portion of whose supplies could be brought from St. Louis to Kansas City by boat, and reshipped from here. It is estimated that we could give the boat line about 500 tons of freight for the Omaha factory.

"The approximate tonnage above referred to may be greatly increased if through boat-line connections are established from New Orleans to Kansas City, as this would enable us to move our heavy shipments of sugar and molasses which originate on the lower Mississippi River points.

"Respectfully submitted.

"LOOSE-WILES BISCUIT CO.,
"JOHN H. WILES, *Vice President.*"

Chairman BLACK. The hearing will now be adjourned until 9 o'clock tomorrow morning.

(Thereupon, at 10.10 p. m., the hearing was adjourned until 9 o'clock Wednesday morning, October 20, 1915.)

ASSEMBLY ROOM, COMMERCIAL CLUB,
KANSAS CITY, MO.,
Wednesday, October 20, 1915—9 o'clock a. m.

Present: As before.

Chairman BLACK. The hearing will please come to order.

Gentlemen, it is essential that we close this hearing this afternoon, and I would ask you to be as brief as you can in stating the facts. I think those of you who were here yesterday heard some testimony that impressed you. You heard other testimony that did not impress you at all, because the few grains of wheat that were in it were almost buried and lost in the mass of chaff. Now, what impressed you also impressed the board in the same way, and I would ask that the statements be brief and to the point.

Congressman BORLAND. May it please the board, we are going to put on this morning the secretary of the Commercial Club of Omaha and a shipper of Omaha, and I am going to ask Hon. John L. Kennedy, former Member of Congress, of Omaha, to conduct the examination, as he understands the requirements of that section and will be brief and direct.

Mr. Kennedy, will you conduct the examination of those two witnesses?

ROBERT H. MANLEY, called as a witness, testified as follows:

Mr. KENNEDY. You are commissioner of the Commercial Club of Omaha?

Mr. MANLEY. Yes, sir.

Mr. KENNEDY. How large an organization is that, Mr. Manley?

Mr. MANLEY. It has more than 1,700; it is composed of more than 1,700 business men of Omaha.

Mr. KENNEDY. What has been your duty, in a general way, as such commissioner?

Mr. MANLEY. The general management of the club affairs and the conduct of the work of the club in furthering improvements which are done for the benefit of Omaha.

Mr. KENNEDY. Has the Commercial Club of Omaha maintained a Missouri River Navigation Committee?

Mr. MANLEY. Yes, sir; since the first of the year.

Mr. KENNEDY. For what purpose?

Mr. MANLEY. For the purpose of bringing about river transportation, both up and down the river, inasmuch as the shippers, the wholesalers and manufacturers of Omaha, realize that we must have water transportation soon in order that they may—in order that their interests may be properly taken care of, and that the river may be put in such shape that it will better serve their interests and give them cheaper rates, give them the advantage of lower rates of freight.

Mr. KENNEDY. Have you any knowledge of the establishing of boat transportation on the river near Omaha?

Mr. MANLEY. Yes, sir; we have established since the 1st of July—about the 1st of July we put on a small power boat and barge to ply between Omaha and Decatur, which is about 90 miles up the river from Omaha and which serves quite a large agricultural territory. We bought a barge to put upon the river in order to serve that territory and bring grain down to the grain market at Omaha and, on the other hand, for the purpose of shipping up the river from the wholesalers at Omaha the supplies needed for that territory.

Mr. KENNEDY. When did you first put on the boat? When did the first boat go on?

Mr. MANLEY. About the 1st of July, 1915.

Mr. KENNEDY. And has one been added since?

Mr. MANLEY. Yes; the business was so good that we were unable to take care of the grain coming down the river from Decatur, and were not able to take care of more than 15 per cent of it. For that reason the business men of Decatur bought the first boat that was brought up there, and that gave the capital for a second power boat, which will carry 50 tons on its deck. The barges are 150 tons capacity. And that better enables us to move that grain coming down from Decatur to Omaha.

Mr. KENNEDY. What is the distance between Decatur and Omaha?

Mr. MANLEY. About 90 miles.

Mr. KENNEDY. What has been the character of the cargoes carried?

Mr. MANLEY. Upstream it has been supplies for that part of the State, from the jobbers, and downstream it has been almost entirely sacked grain.

Mr. KENNEDY. Now, what steps, if any, did the Commercial Club of Omaha take to provide wharfage for this business?

Mr. MANLEY. In order to provide wharfage the city of Omaha, out of its own treasury, gave the sum of $750 for a temporary warehouse on the river front, on city property, to take care of the loading and unloading of the grain coming downstream and the provisions and supplies going upstream.

Mr. KENNEDY. Has the warehouse been built?

Mr. MANLEY. Yes; the warehouse has been built and is now in operation.

Mr. KENNEDY. Have you any knowledge of an effort on the part of the Commercial Club of Omaha to establish a hay market in Omaha?

Mr. MANLEY. Yes, sir; there is a very definite effort to do that. Hay in Nebraska is one of our largest crops. The Government report for 1914 shows about two and one-half million tons of hay in Nebraska. The value of that crop for 1914 was something over $17,000,000. The hay has been going through Omaha south, for the market is largely south on hay—south and east—but we have never had a hay market there, but we expect to establish one, and one of the chief aids to a hay market will be this river navigation, which we hope to develop between Omaha and Kansas City, in order that we may take care of

the hay on barges on the downstream movement from the hay market which we are now on the point of organizing.

Mr. KENNEDY. Will you just explain to the board in a few words what the establishment of that market will mean; that is, what is or what has to be done to establish it?

Mr. MANLEY. Well, the hay market is to serve the same purpose in the marketing of hay that the Omaha live-stock market serves in the marketing of live stock and that the Omaha grain market has to do in serving the market with grain. It is necessary to permit the cars to stop in transit and go upon the market—to put the hay upon the Omaha market—and the first step requires that arrangements be made with the railroads in regard to rates. That is the most important step, that rates must be secured from the railroads in and out of Omaha before we can establish this hay market and allow cars to stop there.

Mr. KENNEDY. It means inspection, does it not?

Mr. MANLEY. Yes; inspection at Omaha.

Mr. KENNEDY. And it also means grading the hay?

Mr. MANLEY. Yes; inspection and grading.

Mr. KENNEDY. And fitting it for export and home consumption?

Mr. MANLEY. Yes.

Mr. KENNEDY. Is it not true also that Iowa is a large hay-producing State?

Mr. MANLEY. Yes; Iowa is even larger than Nebraska as a hay-producing State.

Mr. KENNEDY. What is the attitude of the Commercial Club of Omaha and the people of Omaha with reference to the improvement of the Missouri River from St. Louis to Kansas City?

Mr. MANLEY. The people themselves are very enthusiastic about it; they hope that it will be possible for us to navigate between Omaha and Kansas City. The shippers are particularly enthusiastic, because they feel that there is need of cheaper transportation between Omaha and Kansas City and from Omaha to St. Louis than they now have on railroads.

Mr. KENNEDY. And they hope in due time, when this waterway is completed to Kansas City, to also have it continued up the river to Omaha?

Mr. MANLEY. Yes, indeed.

(Witness excused.)

J. S. WHITE, called as a witness, testified as follows:

Mr. KENNEDY. Will you give your name to the board?

Mr. WHITE. J. S. White.

Mr. KENNEDY. Mr. White, you live in Omaha?

Mr. WHITE. I do.

Mr. KENNEDY. With what company are you connected there?

Mr. WHITE. With the H. F. Cady Lumber Co.

Mr. KENNEDY. What office do you hold with that company?

Mr. WHITE. I am president of the H. F. Cady Lumber Co.

Mr. KENNEDY. Are you a member of the river-navigation committee of the Omaha Commercial Club?

Mr. WHITE. Yes.

Mr. KENNEDY. And as such member of that committee you know something of its purposes?

Mr. WHITE. Yes, sir.

Mr. KENNEDY. Have you been shipping lumber or building material on these boats to which Mr. Manley has referred?

Mr. WHITE. Yes; on every trip; we have made shipments on every trip the boat has made.

Mr. KENNEDY. What has been the character of the shipments?

Mr. WHITE. Lumber and cement and plaster, and all of the lumber that goes into the construction of houses, barns, sheds, cribs, etc.

Mr. KENNEDY. Do you know anything of their intention to extend that trade and ship stock down to the Omaha market?

Mr. WHITE. I do; yes, sir. The day before I left the *Lady Belle* was at the foot of Douglas Street and the captain bought some 2 by 4's himself to make barriers to keep the stock from going overboard which he was going to carry on their next trip. He said he had three cars of cattle coming down on the next trip.

Mr. KENNEDY. How long have you been engaged in the lumber business, Mr. White?

Mr. WHITE. Twenty-seven years.

Mr. KENNEDY. At Omaha?

Mr. WHITE. Yes.

Mr. KENNEDY. And you are, of course, familiar with the lumber market and the transportation problems attending the trade in that commodity?

Mr. WHITE. I am.

Mr. KENNEDY. What have you to say to the board, Mr. White, as to the importance of the Missouri River as an open waterway for the lumber traffic?

Mr. WHITE. Well, I can say that if it were not for the fact that some other markets might have an opportunity to ship at a lower price, that we could possibly get along in the old way, although the new way would be much cheaper and better; but with the opening of navigation to St. Louis, and possibly to Kansas City, and anyway to Davenport, Iowa, we feel as if we would soon be taken off the boards, entirely off the map, because we know absolutely that it would be impossible for us to compete in a jobbing way with people that had to pay less for their material; they could ship over our heads and pay the freight across the State of Iowa and we could not help ourselves at all.

Mr. KENNEDY. Lumber is one commodity which could particularly well be handled on the river?

Mr. WHITE. Yes, sir; it is so everywhere else.

Mr. KENNEDY. Now, what is true of your business at Omaha would be true of all other institutions of the same character?

Mr. WHITE. Unquestionably so; yes, sir.

Mr. KENNEDY. And what do you say now to this board as to whether or not the people engaged in your line of business could use the Missouri River to advantage if it were opened?

Mr. WHITE. We not only could and would, but we would have to use it if we stayed in business, everything outside of the paltry retail business that cuts no figure.

Mr. KENNEDY. You heard Mr. McVan testify yesterday that the rate on iron and steel from Pittsburgh to the Pacific coast was 55 cents?

Mr. WHITE. Yes; the railroads had made application for the rate.

Mr. KENNEDY. Yes; that the railroads had made application for the rate?

Mr. WHITE. Yes.

Mr. KENNEDY. Do you happen to know what the rate on those commodities now is from Pittsburgh to Omaha?

Mr. WHITE. Yes, sir; we buy every month, and it is 43.6 cents per hundred.

Mr. KENNEDY. What do you buy that comes under that classification?

Mr. WHITE. Barbed wire and nails.

Mr. KENNEDY. Do you happen to know what the rate is on the same commodities from Omaha to the Pacific coast?

Mr. WHITE. 55 cents per hundred pounds.

Mr. KENNEDY. I think that is all.

Chairman BLACK. Where does your lumber supply come from?

Mr. WHITE. From the south in yellow pine and from the coast in fir.

Mr. BLACK. From the Pacific coast?

Mr. WHITE. Yes; from the Pacific coast.

Mr. BLACK. How does it come to you from the Pacific coast, by rail?

Mr. WHITE. Yes; entirely by rail now.

Mr. BLACK. Have you made any calculation about what would be the difference if you were to bring it around by water?

Mr. WHITE. I have. Shortly after one of your members, Col. Deakyne, made a report, an unfavorable report, relative to the navigation of the Missouri River, I wrote him with reference to that.

Mr. KENNEDY. Have you that letter, Mr. White?

Mr. WHITE. I have a copy of it.

Mr. KENNEDY. I suggest that you submit it to the board as the shortest way to put the information requested before the board.

Chairman BLACK. Do you there show what could be done with Pacific coast lumber on a water route?

Mr. WHITE. Yes.

Chairman BLACK. How would you bring it in, to New Orleans and then up?

Mr. WHITE. Yes, sir.

Chairman BLACK. Do you remember anything about the figures at all?

Mr. WHITE. I have the letter in my pocket; it is short.

Mr. KENNEDY. Read the letter into the record, Mr. White.

Mr. WHITE. I will do so; it is as follows:

"Lieut. Col. HERBERT DEAKYNE,
Corps of Engineers.

"DEAR SIR: I am a member of the Missouri River navigation committee of the Omaha Commercial Club, and I am very much interested in the navigation of the Missouri River between Kansas City and Omaha, because I feel that the future success and growth of my company will depend upon the navigation of the Missouri River to Omaha.

"Coincident with the use of the Panama Canal will come very much lower rate on fir lumber from Washington and Oregon mills to every point that can be reached by water in this district, notably St. Louis, Kansas City, Burlington, and Davenport, Iowa.

"Rough fir lumber weighs 3,300 pound per 1,000 feet, and surfaced fir weighs 2,500 pounds per 1,000 feet, which, at a 50-cent rate, costs in freight alone $16.50 per 1,000 feet on rough, and $12.50 per 1,000 feet on surfaced lumber to transport by railroad to Omaha from Washington and Oregon points.

"The present rate on either rough or surfaced lumber from Washington and Oregon points to New York, Philadelphia, or Baltimore is $7.50 to $8 per 1,000 feet, freight and canal charges, inclusive. No doubt the freight to St. Louis, Davenport, or Kansas City will be practically the same, with 50 cents to $1 added for lighterage, etc. This would enable towns having water connection such as those named to out sell the Omaha lumber merchant.

"This is an alarming prospect for use to face in the sale of lumber at Omaha. We sell about as much lumber in Iowa as in Nebraska, and we are informed that Davenport is expending large sums on municipal dockage to care for an immense extension of her river business. We also handle nails and barbed wire that should come to Omaha via water route.

"We face a constant demand, and the most energetic efforts by all railroads to increase our present rates on everything, and are forced to employ the best of attorneys and traffic officials to maintain a small space on the map, and these same railroads have seemingly convinced our Interstate Commerce Commission that they not only do not get enough freight to make any money, but testify that an increase in their rates is necessary and must come if they expect to continue in business without going through the receiver's hands, so we can not expect any lower reductions in freights at their hands, and it seems to the poor business man in Omaha as if river navigation from St. Louis and Kansas City held the only possible salvation of our mercantile prosperity as a lumber market.

"We receive at the present time about 200 cars of fir lumber, practically 6,000 tons; 600 cars of yellow pine and cypress lumber from the south, about 18,000 tons, and about 400 tons of barbed wire and nails, and we hope that vigorous action upon the part of the Government will be taken promptly to prevent a great loss to Omaha, a city that is so located geographically that it is destined as a gateway for an enormous tonnage, but for a reaction that transportation of any character given to Omaha's neighbors and denied her would occasion. If the Missouri River is made navigable we will certainly take advantage of it in every possible way at all times, from the first minute it becomes available.

"I wish I could voice my extreme interest in this matter and bond my support for all time to this movement to save us from the enemy—our competitors.

"Yours, truly,

"H. F. CADY LUMBER CO.,
"Per J. S. WHITE, *President.*"

Chairman BLACK. In advance of the improvement of the Missouri River between Kansas City and Omaha would it pay you to bring lumber from St. Louis to Kansas City by water and then ship it by rail to Omaha, or would it be cheaper to get it all rail from St. Louis?

Mr. WHITE. I do not know what rate would be made to Kansas City. I would suppose that once it were put on a boat it would be much cheaper to continue by the boat to Omaha and unload there. Our yard and many others are within a very short distance of where docks will no doubt be built in Omaha.

Chairman BLACK. That was not the question I asked, hardly. In advance of the improvement of the river between Omaha and Kansas City would it pay you to bring lumber up from St. Louis by water to Kansas City and then ship it by rail to Omaha rather than to bring it all rail direct to Omaha?

Mr. WHITE. I could only know in regard to that when I was quoted a rate by the water route; that has not been done yet.

Mr. KENNEDY. Mr. White, about what date did you write that letter? It is not dated.

Mr. WHITE. The stenographer, in copying this for me, failed to put on the date, but I think it was about June 20 of this year.

Mr. KENNEDY. Now, one other question: As a member of the Missouri River navigation committee of the Commercial Club of Omaha you have been interested and have knowledge of the efforts to establish a hay market at Omaha, have you not?

Mr. WHITE. Yes.

Mr. KENNEDY. And you have made some investigation as to the amount of hay and alfalfa that might be handled from there on the river up and down?

Mr. WHITE. Yes.

Mr. KENNEDY. And what do you say to the board as to the importance of the navigation of the river, both between Omaha and Kansas City and between Kansas City and St. Louis from a hay-market standpoint?

Mr. WHITE. I should say that it would be very important, indeed. We had a mill in Louisiana a few years ago and we bought all of our hay from Kansas City, and that hay came from Nebraska, Iowa, and Kansas, and, as testified by Mr. Manley here a few minutes ago, the production of hay in Nebraska is very large, and in Iowa still larger; possibly Iowa may be the largest hay-producing State in the United States, and I do not think that Nebraska will come in a very bad second, and the amount is very large.

Mr. KENNEDY. And that is a class of freight that could be readily adapted to the boat traffic on the river?

Mr. WHITE. Yes, sir; very much so.

Col. NEWCOMER. Is there any considerable movement of lumber into St. Louis by river?

Mr. WHITE. I have not advised myself on that for the past year or so, but I do know that a very large lumber jobber in the extreme north part of Omaha—I do not recall his name now—but he handles cypress lumber, and all of the output for some months of a large cypress mill at Plaquemine, La., on the Texas & Pacific Railroad. This mill is 6 miles from the Mississippi River, and the last time I was at that mill they were at that time delivering for this man on barges, two barges, and hauling it 6 miles overland by team instead of shipping it north by the Texas & Pacific Road, on which their mill is located. And I know that a great amount of yellow pine goes north to St. Louis.

Col. NEWCOMER. By river?

Mr. WHITE. By river.

Col. NEWCOMER. There is no very large tonnage to St. Louis by river, is there? They are not receiving any California fir yet, are they?

Mr. WHITE. I do not know, sir. I am not sure that the canal has been open all the time; I have heard of slides and so forth.

Col. NEWCOMER. The canal has been in service for a year.

Mr. WHITE. A man does not handle lumber and pay a 55-cent rate from the coast to St. Louis when he has an $8 rate that would take him 2,500 miles farther than New Orleans, or less than half of what it would be at the 55-cent rate. We could not do it. The freight is a large element in the lumber business; we pay more freight than we do money to the man that makes it.

Col. NEWCOMER. You seem to be apprehensive of the effect on your trade of water competition at St. Louis. That water competition has existed for some time, has it not?

Mr. WHITE. The canal has not existed for some time.

Col. NEWCOMER. The southern lumber market has been available to St. Louis for many years?

Mr. WHITE. Yes; but with the increased demand that would naturally be created for the fir lumber, which can come in at New Orleans at half the freight, it would stimulate river business until everyone would naturally take advantage of the lower rates offered them.

Col. NEWCOMER. It would seem so.

Mr. WHITE. The mills have been built on railroads and they are established for a different line of traffic.

Chairman BLACK. Although the canal has been open but a year, yet I know that preparation had been made along the Hudson at Poughkeepsie and other places to receive the lumber, and it is only within the last few months that

shipments have been coming in. They are coming from the Pacific coast by water.

Mr. KENNEDY. It takes time to readjust business conditions. That is all, Mr. White.

(Witness excused.)

CHARLES F. FAETH, called as a witness, testified as follows:

Congressman BORLAND. Mr. Faeth, just state the nature of your concern.

Mr. FAETH. The Faeth Iron Co.

Congressman BORLAND. Just tell the board now to what extent you have used the transportation on the river during the last few seasons.

Mr. FAETH. I had a statement prepared of our tonnage received by boat line.

Congressman BORLAND. I have your statement here on page 112, or a clipping from it.

Mr. FAETH. I am quoting from that. This is a statement prepared by our traffic department. We shipped into Kansas City during the season of 1914 300,391 pounds via the boat line, and in 1915 we shipped into Kansas City 3,378,301 pounds.

Congressman BORLAND. That is an increase of tenfold between 1914 and 1915?

Mr. FAETH. Well, elevenfold; eleven times as much.

Congressmen BORLAND. Now, Mr. Faeth, your material is heavy iron?

Mr. FAETH. We deal principally in iron, steel, horseshoes, bolts, nuts, washers, and rivets.

Congressman BORLAND. From what direction?

Mr. FAETH. Practically from Chicago, Cleveland, or the Pittsburgh district.

Congressman BORLAND. Mr. Faeth, assuming that the Missouri River Channel is completed to a permanent 6-foot depth and that the boats run night and day, affording a 72-hour delivery out of St. Louis into Kansas City and daily sailings from St. Louis and Kansas City, how much, if any, could you increase that tonnage?

Mr. FAETH. We could give them annually three times that tonnage, at least.

Congressman BORLAND. Three times that tonnage?

Mr. FAETH. At least.

Congressman BORLAND. It is a question, then, only of the equipment and improvement of the river?

Mr. FAETH. That is all.

Judge BLAND. Would you be willing to give that tonnage, Mr. Faeth?

Mr. FAETH. I would be more than willing, Judge.

Congressman BORLAND. That is all; thank you.

(Witness excused.)

WILLIAM VOLKER, called as a witness, testified as follows:

Judge BLAND. Your firm is William Volker & Co.?

Mr. VOLKER. Yes, sir.

Judge BLAND. You are engaged in the manufacturing and wholesale business also?

Mr. VOLKER. Yes, sir.

Judge BLAND. Are you one of the directors of the navigation company, Mr. Volker?

Mr. VOLKER. Yes, sir.

Judge BLAND. Have you been using the river, Mr. Volker, for shipments of your freight in the past?

Mr. VOLKER. Yes; used it ever since the Richards Boat Line was established, I think, in 1882.

Judge BLAND. And used it when the *Lura* and *Tennessee* and *Chester* were on?

Mr. VOLKER. Yes.

Judge BLAND. Mr. Volker, what tonnage have you shipped over the boat line in recent years—that is, 1913, 1914, and 1915?

Mr. VOLKER. We have shipped 240 tons a year over the boat line.

Judge BLAND. What is your total tonnage into Kansas City?

Mr. VOLKER. Our total tonnage into Kansas City is 4,500 tons a year.

Judge BLAND. If we had daily sailings from St. Louis with regular schedule of, say, 72 hours upstream, what tonnage could you and would you be willing to give to the boat company?

Mr. VOLKER. We would feel like promising 1,500 tons a year, but believe our offerings would exceed 2,000 tons a year.

Judge BLAND. Mr. Volker, you were born in Germany?

Mr. VOLKER. Yes, sir.

Judge BLAND. You are familiar with the situation of the watercourses in Germany?

Mr. VOLKER. In a way; yes, sir.

Judge BLAND. Mr. Volker, in 1909 you sent Mr. H. G. Wilson, transportation commissioner of the Commercial Club, to Germany to make an examination, did you not?

Mr. VOLKER. Yes, sir.

Judge BLAND. Have you a statement, Mr. Volker, compiled as to the tonnage carried by the inland waterways of Germany in 1911?

Mr. VOLKER. Mr. Wilson had it and made a report, but I don't have that report to-day. I saw, however, a publication—a book written by Mr. Frederic C. Howe, of New York—and the figures there given are evidently taken from the same source from which Mr. Wilson got his figures when he made his report.

Judge BLAND. Have you a memorandum of the figures showing the development of tonnage on the rivers in Germany?

Mr. VOLKER. That report made by Mr. Howe, which I say was derived from the same source as Mr. Wilson's figures, showed that the inland waterways of Germany carried in the year reported 76,600,000 tons, and that all the railways of the nation carried in the same year 408,000,000 tons; or, in other words, that the inland waterways carried one-sixth of the total tonnage carried.

Judge BLAND. What is the situation at Mannheim, Reinau, and Ludwigshafen?

Mr. VOLKER. As Mr. Wilson showed, the facilities of inland waterways in Germany had been increased gradually. That nation had spent many or large amounts of money during the past 25 years on them. He gave a report of the business of several harbors, and it showed that as these facilities had been expanded the use of the waterways had increased, and had increased in very enormous proportions. He showed that at Mannheim in 1870 the harbor had 41,000 tons of freight; that in 1901 it had 5,000,000 tons; that in 1909 it had 6,000,000 tons. He showed that Reinau in 1901 had 562 tons; in 1909 it had 1,797,000 tons. And he showed that in Ludwigshafen the harbor in 1870 had 135,000 tons, and in 1909 it had 2,178,000 tons.

Judge BLAND. Mr. Volker, since the completion of the Panama Canal, what have you noticed as to its effect, with reference to the ocean-to-ocean rate in your business, with reference to the California business?

Mr. VOLKER. It was very forcibly presented to us in this form, in the last analysis, that either we would have to establish manufacturing facilities at the Atlantic Ocean or we would have to abandon our business on the Pacific coast. Some of our factories are at Chicago. The reason was that the rail rates, as they were in effect as far as our goods were concerned, prior to a month ago—that the rates from New York via the Panama Canal would be about one-half of the rates that we could get from our factory at Chicago. In other words, we found that we could ship from Chicago to New York and via ocean and Panama Canal to San Francisco at a rate somewhat cheaper than we could get by shipping directly from Chicago to San Francisco.

Judge BLAND. Is there anything else now, Mr. Volker, that you have in mind?

Mr. VOLKER. No. Only I would like to say this, that I think this matter is very important. It is very important for Kansas City. It is important for the entire Central West, and it is important for the Nation.

Judge BLAND. Any questions by the commission or the board of Mr. Volker?

Chairman BLACK. I believe not.

Judge BLAND. That is all, Mr. Volker.

(Witness excused.)

Congressman BORLAND. Mr. Smith.

LEON SMITH, called as a witness, testified as follows:

Congressman BORLAND. Your name is Leon Smith and you are president of the Smith-McCord Dry Goods Co.?

Mr. SMITH. Yes, sir

Congressman BORLAND. Engaged in wholesale dry-goods business, Mr. Smith?

Mr. SMITH. I am.

Congressman BORLAND. Now, to what extent have you used the Missouri River traffic facilities during the last few seasons?

Mr. SMITH. Well, I will ask you gentlemen to refer to page 126 of the brief. I have made a statement there in writing, showing our tonnage. It is not great like the tonnage in some other lines of business, but it is all high-class tonnage. I believe the records of the navigation company would show that we had been its most profitable patron, because of the classification of our stuff. That is on page 126. You will observe that we started in 1911 with 389 tons, and up to September of this year we had given the navigation company 940 tons with 200 tons in transit yet to be delivered to the navigation company. That would make 1,140 tons this year. Looking up our business, I find that we had received 3,500 tons, 900 of which had been given to the navigation company. Our total movement will be likely about 5,000 tons, nearly all first-class stuff, which takes a high freight rate.

Congressman BORLAND. Has your experience been satisfactory in bringing goods here in that way?

Mr. SMITH. Well, our experience has been satisfactory and unsatisfactory. Of course in the beginning it was bad. We have always patronized a boat line every time we had an opportunity. We had a navigation company before this one that went on the rocks; and we patronized that a good deal and happened to have a good deal of freight on one of the boats when it struck a snag in the river and went down. But we have been interested in river transportation, and we have given, as you will observe by this statement, more tonnage each year, because the service has been greatly improved each year; and if we had good service on this river as we have figured out we were going to have, we could easily give the navigation company 2,000 tons of freight. That would be largely first class—nearly all of it.

Congressman BORLAND. The freight earnings from first-class freight, of course, are higher than the other classifications?

Mr. SMITH. Oh, yes.

Congressman BORLAND. Now, Mr. Smith, you are only one of the dry-goods houses here, and what you say is typical of the dry-goods business here?

Mr. SMITH. Oh, I am sure it is in all the business. I don't suppose there is a business man in Kansas City that has tried harder to support the navigation company than I have, or my firm. It was during my administration as president of this Commercial Club that this navigation company was started. Forty-two business men, out of 50 invited to meet, assembled here in these rooms one afternoon in the spring of 1909 and discussed this proposition. I went to Mr. Walter Dickey personally and talked it over with him and covered the whole ground before he had even thought about it, and it was nearly a year before we got under way. It took time. It was a big proposition for us to raise all that money, and I have usually found it takes a lot of time and effort and tenacity to put over anything worth while. I may say that I am the head of a business here that runs up into a good many millions a year. And when we came to Kansas City this city was good enough to help us and give us 15 months' rent free and to provide business quarters; and even at that at the end of three years we had lost one-third of our capital—not only the effort we had put in and all our time and effort we had invested, but had lost one-third of our capital; and there were some of the members of the company that thought then that the business, immediate and prospective, was hardly big enough for us to continue; but other members of the firm had a wider vision and we stayed with it and we made a good success of it.

Now, in raising the money for this transportation company I gave up a good deal of time, enjoying a wide acquaintance here among the business men, and solicited a good many of these funds. I happened to be chairman of the committee to wait on financial institutions who are not shippers of freight. The banks of this town chipped in $80,000, and they haven't anything to ship and had no ax to grind except just because they were interested in the general upbuilding of Kansas City and this part of the country. I don't know of any other reason that they could have had, but they are in here nearly $100,000 worth, just the banks alone, who have no merchandise whatever to ship.

Congressman BORLAND. Mr. Smith, you are satisfied with the continuous improvement of the channel that the boat line is going to be a successful institution?

Mr. SMITH. I have never had any other thought. The least of our troubles has been the tonnage. We know the tonnage is here. I am sure you will be impressed with that fact. There is plenty of tonnage, but it is a question of our ability to be able to take care of it. We could not use he river unimproved,

We have just had that difficulty all along. Now we must work with the Government. That was one of the arguments I used to get subscriptions, in soliciting and collecting the money, that we had taken on the best partner we could have, Uncle Sam, and we were going to work hand in hand on this thing, and I think we have kept the faith.

Surely we would not build terminals and buy boats just as a temporary proposition, and spend all this money. We are not that rich. We are in the game for keeps. I happen to be a director in the boat-line company, and I never heard any other kind of talk around the office over there among our directors. We have got in to stay and want you to stay with us.

Congressman BORLAND. Any further questions, gentlemen? Very well, we thank you, Mr. Smith.

(Witness excused.)

Congressman BORLAND. Mr. Ennis.

FRANK ENNIS, called as a witness, testified as follows:

Congressman BORLAND. Your firm is the Ennis-Hanly-Blackburn Coffee Co.?

Mr. ENNIS. Yes, sir.

Congressman BORLAND. I will hand you that statement that you prepared the other day, and which was handed to me. You are dealers in coffee which you import direct from Brazil, do you?

Mr. ENNIS. Yes, sir; principally.

Congressman BORLAND. Now, tell the board briefly the relation of the port of New Orleans to the importation of coffee and to the use that is made of the river.

Mr. ENNIS. Well, for the year 1914–15 there was approximately 2,242,210 bags of coffee came to the port of New Orleans and was distributed to interior points. That is approximately 9,000 cars of coffee in the year, or 30 cars a day. A great deal of that coffee comes to Kansas City, St. Louis, and upriver points. The use of the river has been very great. We brought some coffee direct from Brazil in order to demonstrate that it could be done by water, and the service was very satisfactory and we would have continued it only for the fact that the transportation companies on the Mississippi River could not or would not absorb the marine insurance, so that we were obliged to give it up temporarily. But we are in hopes that things can be adjusted so that coffees can be brought direct from Brazil by water. If the insurance and other things could be handled properly, I think a great deal of the coffee—one-half of the coffee that does come in—in fact, I am informed that more than half that comes to St. Louis—would come by water if satisfactory water-transportations arrangements could be made. I know if the 6-foot channel were maintained in the Missouri River from St. Louis and the service was regular that no doubt we would bring 50 per cent of our shipments from New Orleans by water and from St. Louis likewise.

Congressman BORLAND. Mr. Ennis, when you brought those shipments in from Brazil and transferred them at the port of New Orleans were they warehoused there or transferred direct to the barge?

Mr. ENNIS. No, sir; the forwarding company there transferred them direct from the steamer to the barge and then they were retransferred at the St. Louis dock to the Kansas City-Missouri River Navigation Co., and I would say that the service that they rendered us was just as good delivery made of the coffee—which is rather hard stuff to handle, as the bags gets torn, etc.—but they came in in just as good condition as they ever came in on the railroad.

Congressman BORLAND. Now, that is incoming freight that would fill the barges at the port landing which had come down with wheat and agricultural products downstream?

Mr. ENNIS. Yes, sir.

Congressman BORLAND. And incoming freight would be coffee and sugar from New Orleans and other commodities of that kind?

Mr. ENNIS. Yes, sir.

Congressman BORLAND. Making a reciprocal shipment back and forth?

Mr. ENNIS. Yes, sir.

Congressman BORLAND. I wish you would give from that table you have there the number of bags of coffee imported by the various coffee importers in Kansas City, of which you are only one. You have there a memorandum, I believe, of the amount of coffee importations of other concerns here.

Mr. ENNIS. This is for the coffee-crop year of July 1, 1914, to June 30, 1915. The Ridenour-Baker Grocery Co., their imports show 12,000 bags; the Ridenour-Baker Mercantile Co., a branch of theirs, 6,250 bags; the Ennis-Hanly-Blackburn Coffee Co., 4,250 bags; the Paddock Coffee & Spice Co., 2,750 bags; the Bour Coffee Co., 2,000 bags; and the Kansas City Wholesale Grocery Co., 500 bags. Now, this only represents coffee that came on direct importation, direct to the purchaser. The majority of the jobbers and restaurants here purchase coffees what we call "spot coffees," either at shipside or stored at New Orleans, and they would not show on this sheet. Of course, the Ridenour-Baker Co.—this is only a drop in the bucket of what they import. They are competitors of ours, by the way. This does not show anything like what they bring in at all, but this is direct importation. This coffee moved directly and was handled from steamer to barge without any rehandling at all from shipside. The Government entry could be made right at the steamer and the coffees handled by barge just the same as by railroad and would cut out considerable of the cost of handling, too.

Col. WINSLOW. What is the total weight of that coffee, please?

Mr. ENNIS. I have not figured this at all.

Col. WINSLOW. What is the weight of a bag?

Mr. ENNIS. One hundred and thirty-two pounds.

Congressman BORLAND. The total is 27,750 bags.

Mr. ENNIS. This is only a small portion of the coffee that comes to Kansas City, because it is only the direct importation. The majority of us buy what are called spot coffees direct from the importers in New Orleans that are in store there and that do not show on this.

Congressman BORLAND. The great majority of the coffee is not shown on that?

Mr. ENNIS. Brought direct from New Orleans; yes.

Congressman BORLAND. A large amount of it?

Mr. ENNIS. Yes; probably 10 cars of coffee come to Kansas City a day. I judge that is approximately correct.

Congressman BORLAND. Now, I believe you said it would be possible, if barges ran through from New Orleans and there was sufficient marine insurance and other facilities given, to load a barge with coffee belonging to various houses here so that it would all be brought in one barge, or at least you could bunch your shipments?

Mr. ENNIS. Well, there could be a bargeload of coffee every day, I should judge, from New Orleans to St. Louis.

Congressman BORLAND. Every day?

Mr. ENNIS. Every day. Well, I don't know—30 cars—a trainload of cars comes into New Orleans a day for interior points and New Orleans also—30 cars a day, the imports show.

(Witness excused.)

Congressman BORLAND. I will call Mr. C. J. Schmelzer.

C. J. SCHMELZER, called as a witness, testified as follows:

Congressman BORLAND. Please state your business.

Mr. SCHMELZER. Wholesale sporting goods.

Congressman BORLAND. Mr. Schmelzer, you are president of the Schmelzer Arms Co.?

Mr. SCHMELZER. Yes, sir.

Congressman BORLAND. Dealing in sporting goods?

Mr. SCHMELZER. Yes, sir.

Congressman BORLAND. And sportsmen's supplies, musical instruments, toys, and that sort of thing?

Mr. SCHMELZER. Yes, sir.

Congressman BORLAND. To what extent have you made use of the boat line as a means of transportation in recent seasons? I have here, on page 117 of this brief, an extract from your records.

Mr. SCHMELZER. Well, I would say that for the year 1913 we shipped less than 10,000 pounds; in 1914 we shipped 100,000 pounds; and in 1915 we shipped about 150,000 pounds, which is about 5 per cent of the tonnage that we have; and if we could have the proper service on the boat line, we could just reverse the proposition and ship at least 85 per cent—75 per cent to 85 per cent—of our tonnage by water from St. Louis here. I might add that our freight originates almost altogether in New England; some little portion in the Central States; but we could ship conveniently to St. Louis in carload lots and

transfer to the river and make use of it for at least 75 per cent of the commodities that we handle if we had the proper facilities and proper service.

Congressman BORLAND. As your service has been improving you have improved in the shipments?

Mr. SCHMELZER. It has been improving; yes. I am shipping a carload of goods from Cleveland via St. Louis and having them transferred to the boat line, because I am in no particular hurry for the goods, although the service now is within 6 to 10 days between here and St. Louis. If we had a service of from 4 to 6 days, I should say we could ship at least two-thirds of the goods by water that we ship now and could make use of it in that way.

Congressman BORLAND. Were the shipments in 1913 any measure of your ability to ship?

Mr. SCHMELZER. Not in any sense at all. We did not feel that the boat line was ready to take on business at all in 1913.

Congressman BORLAND. Now, what you say is typical of other sporting goods houses in Kansas City and their territory?

Mr. SCHMELZER. I should feel so, yes; and I feel that as soon as the river is in shape to use, not only Kansas City shippers will make use of it, but this entire territory. It is nothing uncommon for us to distribute carloads to companies at outlying points from Kansas City that partially originate here and that we control the routing of.

Congressman BORLAND. Of course you have not considered this phase of it, but, as a matter of fact, your high-grade tonnage coming from the East fills up the barges that have gone down with loads of agricultural products originating in the West and constituting interchange traffic, giving the boat line a haul both ways. You have not considered that proposition in your statement here?

Mr. SCHMELZER. No, sir.

Congressman BORLAND. But you have been considering your tonnage being westbound tonnage; that is the fact?

Mr. SCHMELZER. Yes, sir.

Congressman BORLAND. Now, that is all, Mr. Schmelzer, unless you gentlemen wish to ask something. There being no further questions, you will be excused.

(Witness excused.)

R. L. REDPATH, called as a witness, testified as follows:

Congressman BORLAND. Mr. Redpath, you are the president or manager of the American Radiator Co., are you?

Mr. REDPATH. Yes, sir; I am manager of the plant of the American Radiator Co. in Kansas City.

Congressman BORLAND. You have begun to use now, to some extent, the boat line in recent shipments, have you?

Mr. REDPATH. We have only made some very small shipments on the boat line down the river recently.

Congressman BORLAND. I believe you have got that already in the brief. I want to refer to that.

Mr. REDPATH. Well, we have made shipments of only two cars of freight down the river. We have not considered the matter very much up to this time. We moved down the river to St. Louis about 1,344 tons of freight, finished product. We bring into St. Louis about 9,828 tons of raw material each year, coming through the St. Louis gateway.

Congressman BORLAND. Those are your requirements?

Mr. REDPATH. Yes, sir.

Congressman BORLAND. You have just begun to use the river?

Mr. REDPATH. Yes, sir.

Congressman BORLAND. Any questions on that, gentlemen? That is all, Mr. Redpath, thank you.

(Witness excused.)

Congressman BORLAND. Mr. Maxwell.

R. M. MAXWELL, called as a witness, testified as follows:

Congressman BORLAND. Will you give to the stenographer the name of your firm?

Mr. MAXWELL. My name is R. M. Maxwell of the Maxwell-McClure-Fitts Dry Goods Co., wholesale dry goods.

Congressman BORLAND. You are in the furnishing goods and notions and jobbing?

Mr. MAXWELL. Yes, sir.

Congressman BORLAND. And wholesale?

Mr. MAXWELL. Yes, sir.

Congressman BORLAND. Have you begun to make use of the river much in your recent shipments?

Mr. MAXWELL. We have used the river ever since the boat line was started. We all were stockholders in the boat line before this and also in this line, and we have used it wherever it was possible. In the past one of our greatest obstacles was the service that was rendered. This year the service has been quite improved over what it was last year. I think in 1914 we gave the boat line about 157 tons; and this year something like 231 tons. Our business is comprised of high-class merchandise and we can not talk tonnage like some of our friends can; but in making a little estimate yesterday I feel that I am absolutely safe in saying that we can double that tonnage if we had something like daily service. This year, while the service has been practically the same, we have doubled over what it was last year; our tonnage has nearly doubled.

Congressman BORLAND. So with daily sailings and regular schedule you think you could more than double your tonnage?

Mr. MAXWELL. Yes, sir.

Congressman BORLAND. Your goods are first-class traffic?

Mr. MAXWELL. Practically all first class—high-class merchandise—nothing below third class.

Congressman BORLAND. Consisting of notions, toys, and toilet articles——

Mr. MAXWELL. Yes; and underwear, hosiery, and kindred lines that take a high-class rate. I might say we have had less complaint for damage over the boat line than we usually experience with the all-rail lines. That also applies to theft, for some reason; our merchandise comes in in very nice shape and we are anxious to use the boat line wherever it is possible.

Congressman BORLAND. That is all, Mr. Maxwell, unless the gentlemen have some questions.

(Witness excused.)

Judge BLAND. Mr. Redpath wants to be recalled in order to correct a statement as to tonnage.

R. L. REDPATH, recalled, further testified: Gentlemen, in making my statement as to tonnage inbound, I gave it as 9,998 tons. I want to correct that one item. It is 14,069 tons.

(Witness excused.)

Congressman BORLAND. Mr. Richards.

W. B. RICHARDS, called as a witness, testified:

Congressman BORLAND. You may state your name.

Mr. RICHARDS. W. B. Richards, of the Richards & Conover Hardware Co.

Congressman BORLAND. Mr. Richards, you are in the wholesale hardware business?

Mr. RICHARDS. Yes, sir.

Congressman BORLAND. And connected with one of the oldest pioneer hardware houses in the Missouri Valley, are you not?

Mr. RICHARDS. Yes, sir.

Congressman BORLAND. And have grown up in the hardware business?

Mr. RICHARDS. Grown gray in it.

Congressman BORLAND. Can you give us now your shipments by the Missouri River line, especially in regard to the recent season?

Mr. RICHARDS. Our record that we have looked up goes back to 1911, at which time we had 168 tons; and it has increased every year except last year up to ten times that amount, or more. This year we have shipped over 2,000 tons up to date and our record up to the 9th of this month was 1,932 tons; and that is about 15 per cent of our gross tonnage moving west.

The 1913 tonnage was about 17 per cent of the gross movement and, as everybody in this section remembers, that was the hottest year and the driest year we have had in a long time. The river was in very bad condition and we had a great deal of difficulty in getting our tonnage in on account of the difficulties of navigation. So that the next year, which was last year, our tonnage dropped down to 266 tons on account of our experience of the year before and delayed shipments; and some of them were laid out way late into the winter. This year, when we have had the best rains that we have ever known in this country, without regard to the improvement of the Missouri

River I think we could have navigated if they had not had any improvements at all; but with the help of what improvements we have had this has been the best year, and if we have a continued good channel and improved conditions I think our tonnage would run up to 50 per cent of our total tonnage, which would amount to probably 5,000 or 6,000 tons a year.

Congressman BORLAND. Fifty per cent would amount to 5,000 or 6,000 tons a year?

Mr. RICHARDS. Yes; that we could readily move by river.

Congressman BORLAND. Your total tonnage, then, is over 10,000 tons?

Mr. RICHARDS. Our total tonnage last year was 13,000 tons and this year, up to the 9th of October, it was 10,500 tons, of which 1,932 tons moved by river, and we now since that date have received and routed 400 tons more that will come by river before the close of the season.

Congressman BORLAND. Mr. Richards, the head of your firm was connected with the earlier boat lines here that were unsuccessful on account of the want of an improved channel?

Mr. RICHARDS. Yes; our senior member of the firm, Mr. John F. Richards, came to this country in 1858 and took a stock of hardware from St. Louis to Leavenworth, Kans., by boat. It was small in those days, but, as he has remarked, the rate on hardware at that time—his whole stock was taken from St. Louis to Leavenworth at a flat rate of 35 cents per hundred pounds, which included everything he had; and to-day the rate on hardware is 45 cents from St. Louis to Kansas City, and sometimes, I think, I do not know whether this is real progress or not in the way of rates.

Congressman BORLAND. Any further questions? That is all, Mr. Richards, unless you have something else you want to give.

Mr. RICHARDS. I want to remark that our tonnage, while not as valuable as Mr. Smith's in the dry-goods line, I think our tonnage is the largest of any one shipper by the transportation company.

Congressman BORLAND. I just want to ask you, of course, you are speaking only for one wholesale hardware concern, and what you say is applicable in a business way to other wholesale houses?

Mr. RICHARDS. Certainly is.

(Witness excused.)

Congressman BORLAND. Mr. Jenkins, of the Jenkins Music Co.

C. W. JENKINS, called as a witness, testified:

Congressman BORLAND. You are connected with the J. W. Jenkins Sons' Music Co.?

Mr. JENKINS. Yes, sir.

Congressman BORLAND. You are jobbers in musical intruments and musical goods of all kinds, are you?

Mr. JENKINS. Well, not of all kinds. We do not job pianos. We have 13 stores outside of Kansas City in this territory.

Congressman BORLAND. You have 13 stores outside of Kansas City?

Mr. JENKINS. Yes, sir.

Congressman BORLAND. You handle pianos, though?

Mr. JENKINS. Yes, sir.

Congressman BORLAND. And you are jobbers in other lines of musical instruments?

Mr. JENKINS. Yes, sir.

Congressman BORLAND. To what extent have you used in recent seasons the boat line company?

Mr. JENKINS. Well, we have used the boat line ever since it was started. Last year or during the last 12 months we have given the boat line 260 tons of freight.

Congressman BORLAND. During the last 12 months you have had 260 tons?

Mr. JENKINS. Yes, sir.

Congressman BORLAND. What did that consist of—what class of freight?

Mr. JENKINS. Principally pianos.

Congressman BORLAND. Principally pianos?

Mr. JENKINS. Some talking machines.

Congressman BORLAND. What was your experience in the handling of that freight?

Mr. JENKINS. Very satisfactory.

Congressman BORLAND. Very satisfactory?

Mr. JENKINS. Yes, sir.

Congressman BORLAND. You found you were able to bring in pianos by boat line as readily as by rail?

Mr. JENKINS. Yes. We had only one claim against the boat line company on a piano, and that was very small and it was settled very promptly.

Congressman BORLAND. They came in good condition, I understand?

Mr. JENKINS. Yes, sir.

Congressman BORLAND. And you have had only one claim growing out of the shipment of pianos?

Mr. JENKINS. Yes, sir.

Congressman BORLAND. Assuming that there would be a permanent channel maintained on the Missouri River and regular sailings, daily sailings, to what extent would you increase that tonnage, if at all?

Mr. JENKINS. We would be able to give them somewhere between 900 and 1,000 tons of freight.

Congressman BORLAND. And your freight takes a first-class rate?

Mr. JENKINS. All first class.

Congressman BORLAND. All coming in from the East?

Mr. JENKINS. Yes.

Congressman BORLAND. Incoming freight? That is all, Mr. Jenkins. Your testimony is typical of the musical-instrument line in this city?

Mr. JENKINS. Yes, sir.

(Witness excused.)

Congressman BORLAND. Now, Mr. Lester.

JOHN C. LESTER, called as a witness, testified:

Congressman BORLAND. Mr. Lester, you are with the Ridenour-Baker Grocery Co.?

Mr. LESTER. Yes, sir.

Congressman BORLAND. Wholesale groceries?

Mr. LESTER. Yes, sir.

Congressman BORLAND. To what extent has your firm used the river as a means of transportation?

Mr. LESTER. Why, in the last four years—I have a memorandum here which you will permit me to refer to?

Congressman BORLAND. Yes; you may refer to your memorandum and give us the figures.

Mr. LESTER. In 1913 we used it to the extent of 154 tons; in 1914, 161 tons; and to October 1, 1915, 758 tons.

Congressman BORLAND. October 1, 1915, 758 tons?

Mr. LESTER. Yes, sir; that amount should be increased by about 50 tons now in transit.

Congressman BORLAND. So you will run over 800 tons in the season of 1915?

Mr. LESTER. Yes, sir.

Congressman BORLAND. And your freight in 1913 was only 154 tons?

Mr. LESTER. Yes, sir.

Congressman BORLAND. So that your shipments in 1913 were hardly a criterion for use——

Mr. LESTER (interrupting). Absolutely no criterion at all.

Congressman BORLAND. Now, what class of freight is that that comes to you?

Mr. LESTER. That is mostly third, fourth, and some fifth class—mostly third and fourth.

Congressman BORLAND. That is mostly incoming freight?

Mr. LESTER. Incoming freight from points east of the Mississippi River.

Congressman BORLAND. Now, I assume, Mr. Lester, on a certain class of your business prompt delivery and regular service is important?

Mr. LESTER. Very important, sir.

Congressman BORLAND. Assuming that the channel is completed and regular sailings and regular schedule are maintained, to what extent can you increase that tonnage? To what extent are you disposed to increase it?

Mr. LESTER. Why, our total tonnage is something like 65,000 tons. We could give 70 per cent of that to the Missouri River boat line; but of course in our business, where we handle all classes of freight, some will naturally seek an all-rail route and some will naturally seek the slower river route. We realize that in the nature of things the all-rail route is obliged to be quicker, while we have received some remarkably quick shipments by river, we do not expect the river to give us a quicker service than the railroads. Hence we know

that of the 70 per cent I have just mentioned, a portion will always take the rails and some will always be shipped by river.

Congressman BORLAND. Do you bring any sugar, coffee, and molasses from New Orleans?

Mr. LESTER. Yes, sir; not much sugar nowadays, but some.

Congressman BORLAND. But you bring in coffee though, don't you?

Mr. LESTER. Yes, sir.

Congressman BORLAND. You are speaking now of the wholesale-grocery jobbing line in general and what you say would apply to the business generally or to other wholesale houses in Kansas City and Missouri River points.

Mr. LESTER. It is my belief that it would.

Congressman BORLAND. Of course there are a large number of grocery houses in this territory.

Mr. LESTER. Yes, sir.

Congressman BORLAND. Very large number?

Mr. LESTER. Yes, sir; and some are here and will speak for themselves.

Congressman BORLAND. I believe your company was the one that Ennis mentioned in his testimony as the largest importer of coffee in this market?

Mr. LESTER. I don't claim that, sir, but I am glad to hear it. We are large importers of coffee.

Congressman BORLAND. I believe he gave figures to that effect. That is all, thank you.

Judge BLAND. Mr. Lester, if the use of the lower river were developed in connection with the Missouri River, then would you bring in sugar by New Orleans if there was a differential rate?

Mr. LESTER. Unquestionably.

Judge BLAND. In very large quantities?

Mr. LESTER. Yes, sir. Indeed we have brought sugar that way.

Judge BLAND. That is all.

(Witness excused.)

Congressman BORLAND. I will call Mr. Overton.

CHARLES B. OVERTON, called as a witness, testified:

Congressman BORLAND. Mr. Overton, give the stenographer your name.

Mr. OVERTON. Charles B. Overton, of Hettinger Bros. Manufacturing Co.

Congressman BORLAND. Your line of business is dental supplies?

Mr. OVERTON. Dental, surgical, and hospital supplies.

Congressman BORLAND. Now, that is a line of business that seems a little bit remote from river transportation, but you may tell the board what experience you have had in using the river.

Mr. OVERTON. We have handled this year about four carloads by the river and found it very satisfactory.

Congressman BORLAND. What was the class of freight?

Mr. OVERTON. Our freight is almost altogether first class or better. All high class.

Congressman BORLAND. It consists of plaster of Paris and dental chairs——

Mr. OVERTON. Yes; and various hospital supplies used in our business.

Congressman BORLAND. I assume, of course, in your business especially, the question of regular service and promptness of delivery is an important element?

Mr. OVERTON. Very important element.

Congressman BORLAND. And as that promptness of delivery and regular service have increased the use of the line of communication has increased?

Mr. OVERTON. Yes, sir.

Congressman BORLAND. Assuming we had regular sailings between St. Louis and Kansas City, and on an improved channel, to what extent, if at all, could you increase that?

Mr. OVERTON. With regular daily sailings, I think we could give the river about 80 per cent of our business.

Congressman BORLAND. And about how much would that be in tonnage? Can you approximate it? Your tonnage is not very large, of course; but in proportion to the character of the business.

Mr. OVERTON. Why, our tonnage, probably, will run from two to four thousand pounds a day, I should say. That is just an estimate. I have no figures on it.

Congressman BORLAND. One to two tons a day?

Mr. OVERTON. Yes.

Congressman BORLAND. And about 80 per cent of that you could give to the river with regular service?

Mr. OVERTON. Yes, sir.

Congressman BORLAND. Your distribution territory reaches out over the Southwest, I believe?

Mr. OVERTON. We cover about 12 States and Territories with our traveling men.

Congressman BORLAND. I think that is all, Mr. Overton. We are much obliged to you.

(Witness excused.)

O. V. WILSON, called as a witness, testified as follows:

Congressman BORLAND. Give your name to the stenographers.

Mr. WILSON. O. V. Wilson.

Congressman BORLAND. Mr. Wilson, state your business.

Mr. WILSON. Wholesale groceries—Ryley-Wilson Grocery Co.

Congressman BORLAND. Mr. Wilson, you have been pretty active on the committees that have gone to Congress—before the Rivers and Harbors Board in relation to the adoption of this Missouri River project—have you not?

Mr. WILSON. Yes; I have always had great faith in the river improvement, and I believe it is the greatest asset that this great West has.

Congressman BORLAND. I wish you would preface your remarks, Mr. Wilson, by telling of your experience there with the Rivers and Harbors Committee of Congress and why we were induced to begin this boat line experiment here.

Mr. WILSON. When we first began to go before the Rivers and Harbors Committee of Congress, Mr. Burton, of Ohio, was chairman of that committee, and we never met with much encouragement from Mr. Burton at that time or during his administration; but when Mr. Alexander, of New York, became the chairman of the Rivers and Harbors Committee we induced him to come out here and make a trip down the river. Mr. Alexander was a gentleman who had made a careful study of rivers all over the world of navigable quality, and when he struck that stretch of the river that had been improved many years ago—from Jefferson City to the mouth of the Gasconade—which formed, gentlemen, possibly the worst crossing of the river, he himself took soundings for part of the distance and saw the soundings taken for the remainder of the distance, and he also had with him the Government engineer. And when he learned the deterioration of the work at different places there during the many years that it had been completed, without any repairs being made on it at all, why he at once became a very ardent supporter of the improvement of the Missouri River, and so reported to Congress, and he supported his report with a very strong speech before the House of Congress upon the feasibility of the improvement of the Missouri River, and he became a very warm supporter of the improvement of the river; and from that time on his reports, as far as I know, have all been favorable to the project of the improvement of the river.

Now, when we were told by the Rivers and Harbors Committee—by Mr. Alexander—that if we would show our faith in that work by raising capital large enough to equip a boat line, why, the Government would do their part by adopting the report, which they afterwards did, as a project to be completed in 10 years at a cost of $20,000,000, we came home and we raised over $1,000,000 in a 30-day campaign here to complete that work; and I am free to say that I thought that certainly was the end of it, as far as any trouble was concerned, from the fact that I regarded it as absolute contract between the Government and our people. We had certainly done our part.

We have spent a great deal of money in the experimental stages of this work; we were pioneers, almost, in the navigation of the inland waters of this country, and we have always had an abiding faith in it; and I still believe that when the $20,000,000 shall have been spent and we get a 6-foot channel or more, which I am satisfied we will get, as we did on that stretch from the Gasconade to Jefferson City, although that work was done only to obtain a 6-foot channel, that we will have one of the finest streams of water in the world; and I believe that the entire West will derive a benefit from it many times greater than Kansas City itself will derive.

Now, if you gentlemen will just consider for one moment the immense amount of grain that is raised in this western country—take the State of Kansas which alone last year raised 182,000,000 bushels of wheat. One time this year it approximated 100,000,000 bushels would be saved, although she raised a great deal more than that; and if by operating boats we can reduce the freight on all the grain raised in Montana and the Dakotas, Nebraska, western Iowa, Kansas, and Colorado and at least half of the State of Missouri

5 cents a bushel, that would be a saving to the farmers of this western country of more than the entire $20,000,000 per annum.

Congressman BORLAND. Now, Mr. Wilson, that showing made to Congress in 1908 and 1910, and finally in 1912, when the project was formally adopted, was based upon the business transacted by Kansas City and the freight moving through Kansas City at least five or six or seven years ago?

Mr. WILSON. Yes, sir.

Congressman BORLAND. And that volume of business transacted in Kansas City as a center and the business moving through Kansas City has increased steadily from that time to this?

Mr. WILSON. Yes.

Congressman BORLAND. And the commercial interests are greater now and the use of the river more imperative than it was at that time?

Mr. WILSON. Yes; Kansas City has been increasing in business, and her tributary territory has been increasing in business ever since. The bank clearings for two days a week ago were over $17,000,000 a day, and last week they were over $85,000,000 for the week, and the business is increasing here steadily.

Congressman BORLAND. And the same may be said to be true of the business of the boat line in the past three seasons; it has been increasing by tremendous percentages?

Mr. WILSON. Yes, sir.

Congressman BORLAND. And you gentlemen do not regard the river traffic in 1913, the tonnage actually moving by river in 1913, as having been an indication of the commercial possibilities of the river?

Mr. WILSON. No, sir. As a matter of fact, I have never been able to use the river very much up to the present time, notwithstanding the fact that I am a large stockholder in the boat line and very favorable to it, from the fact that I am in the grocery business and a large proportion of my tonnage is of a more or less perishable nature, and as long as the navigation of the river was in an experimental stage we did not feel like taking the risk of encountering the long delays we have had in former years. This year we have had a little better service, and the tonnage has been a little better, but even this year I was unfortunate in losing one shipment in a barge that was sunk; but my shipments have been comparatively small.

The tonnage of my house is approximately 25,000 tons per annum in and the same amount out, and then there is possibly about 5,000 tons that comes from the South and East at the present time, which I could ship over the boat line. Well, naturally, I would not expect to send that all over the boat line, but I would expect to ship and be able to ship by the boat line 3,000 or 4,000 tons per annum.

The reason that sugar is not moved from New Orleans to Kansas City now, referred to by Mr. Lester, is that we use a large portion of beet sugar that comes from Colorado and California and a large portion of cane sugar that comes from California and the sugar that comes from Hawaii. On account of this sugar coming in free of duty we have always had the advantage of duty-paid sugar, and for that reason we are able to buy our sugar from the Pacific coast and the Western States where they grow these beets and make beet sugar.

So our tonnage from the East is approximately about 5,000 tons out of 25,000 tons incoming to Kansas City.

Congressman BORLAND. That condition will be changed to some extent by the regular operation of the Panama Canal, will it not?

Mr. WILSON. Yes.

Congressman BORLAND. And the restoration of the port of New Orleans?

Mr. WILSON. Yes, sir. We absolutely need this river improvement more since the completion of the Panama Canal than ever before. As a matter of fact, our manufacturers will be driven from the interior of the country to the seaboard cities unless we have water navigation, on account of the competition brought about by the completion of the Panama Canal.

Congressman BORLAND. I want to bring out this point clearly. You have already covered it, but I want to bring it out in a pointed way. The success of the boat-line company on the river and the successful use of the river means a continual persistent effort to build up the business on the river?

Mr. WILSON. Yes.

Congressman BORLAND. And a check placed on the growth of the boat line and the improvements of the river would blight the business just to that extent?

Mr. WILSON. It would.

Congressman BORLAND. And if the Government were to abandon the river at this time, it would make it much more difficult for another navigation company to resume in the future?

Mr. WILSON. It would, undoubtedly. I have been connected with every boat line organized on this river since I have been here, for 33 years, and have had stock in all, and I lost considerable freight on the old Mason Line, on which we had no insurance, and the line did not assume any liability, and we had to stand the loss ourselves. And I have always realized the importance of this river as an asset in the growth and welfare of all this western country, and I have put money in every line organized.

Congressman BORLAND. That is what I want to bring out, that the result of business men attempting to use the boat line on an unimproved river is unfortunate?

Mr. WILSON. Yes.

Congressman BORLAND. And consequently the tonnage they offer the boat-line company is limited?

Mr. WILSON. Yes.

Congressman BORLAND. But as the river is improved the use of the river for navigation purposes increases?

Mr. WILSON. Yes.

Congressman BORLAND. In other words, we have had to educate the public, the business public, to the fact that the river could be used as a profitable business venture?

Mr. WILSON. Yes.

Congressman BORLAND. And the business of the boat line has increased each season?

Mr. WILSON. Yes. And I want to say this as a stockholder: I never expected any return in large money dividends from that boat line. I think the opinion of our stockholders is that we want to get our dividends in the shape of reduced freight rates, and we do not expect to make any large profit out of the stock, because I think the proper policy of the boat-line company is that when we begin, with a completed river, to make money on the 80 per cent of the rail-rate reduction, then I think we should reduce the freight to 70 per cent of the rail rate; and if we make more than a reasonably small profit at that rate, the rate should be further reduced to 60 per cent of the rail rate, and, if possible, get it down to 50 per cent. And my idea is—I have, of course, a large line of credit all through this western country—and my idea is to benefit the entire West by lowering freight rates to seaboard on grain. As a matter of fact, now the price of grain is regulated by the price at seaboard, and, for instance, to illustrate it, if wheat should be worth at seaboard in New York $1.30, and the freight was 30 cents by rail from this section to seaboard, that day in this section wheat would be worth $1, regardless of whether milled in this country and used here or shipped out. And if a man could only get 90 cents here and could get $1.30 at seaboard, and the freight was 30 cents, naturally he would ship to seaboard. Consequently every cent per bushel that we can reduce the freight on the great grain products of this great and growing West goes right into the pockets of the farmer and adds to the prosperity of this entire western country.

Congressman BORLAND. Have the members of the board any questions to ask Mr. Wilson?

Chairman BLACK. You are quite familiar, I suppose, with the congressional acts with regard to the Missouri River—this portion of it?

Mr. WILSON. Yes, sir.

Chairman BLACK. And as I recall it, after the first report made by the engineering department under the orders of Congress recommending the improvement no action was taken by Congress for several years, and Congress then, for some reason, required again a report as to the feasibility and not as to the propriety of the project?

Mr. WILSON. Yes, sir.

Chairman BLACK. And that report stated that it was feasible to improve this river and made an estimate of the cost?

Mr. WILSON. Yes.

Chairman BLACK. Then Congress adopted that project definitely?

Mr. WILSON. Yes, sir.

Chairman BLACK. And work was going on?

Mr. WILSON. Yes, sir.

Chairman BLACK. Now, without any further report from the engineering department at all, in the last rivers and harbors bill a clause was inserted calling for a renewed investigation of this river, implying doubt on the part of Congress as to the propriety of its former action?

Mr. WILSON. Yes.

Chairman BLACK. Can you tell us why that was?

Mr. WILSON. I can give you my opinion of why that was. My opinion of that is that Mr. Burton was the cause of it. I think it is common knowledge of everybody in the last Congress that Mr. Burton organized the opposition to the rivers and harbors bill and threatened to filibuster, as I understand it, unless it was defeated; and it was, in my judgment, through the efforts of Mr. Burton that this doubt was expressed and this clause put in the bill requiring this additional investigation.

Chairman BLACK. Had conditions changed in the Missouri Valley at all between the time of the adoption of the project by Congress and the expression of this doubt by Congress?

Mr. WILSON. The only change in conditions was the completion of the Panama Canal, which made the improvement of the river all the more necessary.

Congressman BORLAND. In all other respects the change was along the line of the growth of the business of the boat line and of all other business?

Mr. WILSON. Yes, sir; that is true.

Chairman BLACK. Was there any change in physical conditions?

Mr. WILSON. No, sir.

Congressman BORLAND. And no change in business, except a steady growth?

Mr. WILSON. That is correct.

(Witness excused.)

C. D. DOOLEY, called as a witness, testified as follows:

Congressman BORLAND. Give your name to the stenographer.

Mr. DOOLEY. C. D. Dooley.

Congressman BORLAND. And what is your occupation, Mr. Dooley?

Mr. DOOLEY. Traffic manager for Peet Bros.

Congressman BORLAND. And Peet Bros. are manufacturers of soaps on a large scale, are they not?

Mr. DOOLEY. Yes.

Congressman BORLAND. And located here in the Kaw River bottoms?

Mr. DOOLEY. Yes; in Kansas City, Kans.

Congressman BORLAND. I wish you would tell us, Mr. Dooley, the use you have made of river transportation in recent seasons, in the business of your house.

Mr. DOOLEY. We have been using the river since the boat line started, but intermittently until the last year, the season of 1915, during which time we have given them approximately 200 tons of eastbound freight; that is, soap, and about 500 tons of westbound freight; that is, raw material, consisting principally of caustic soda.

Congressman BORLAND. And cocoanut oil?

Mr. DOOLEY. No; we have not given them any cocoanut oil this year.

Congressman BORLAND. So you have given them about 500 tons of westbound tonnage and 200 tons of eastbound tonnage this year?

Mr. DOOLEY. Yes.

Congressman BORLAND. And that is your record for 1915?

Mr. DOOLEY. Yes.

Congressman BORLAND. Prior to that, in the prior seasons, you say your use of the river was intermittent?

Mr. DOOLEY. Yes. I mean by that, we probably did not approximate that amount of tonnage, although we used them.

Congressman BORLAND. So that, in 1913, your record would be considerably lower than that?

Mr. DOOLEY. Yes, sir.

Congressman BORLAND. Do you find a growing satisfaction in the use of the river as the service is improved?

Mr. DOOLEY. This has been the most satisfactory year that we have had; yes.

Congressman BORLAND. What is the gross tonnage of your establishment that moves in each direction, either eastbound or westbound, covered by shipments to the Missouri River?

Mr. DOOLEY. Why, for the year, I should say it approximates 6,000 tons.

Congressman BORLAND. Now, Mr. Dooley, assuming that there would be a permanent improved channel, with a 6-foot depth and regular sailings, regular schedules, between Kansas City and St. Louis, what amount of that freight would be available and could be diverted to the river?

Mr. DOOLEY. For an eight or nine months season I would say about 4,000 tons.

Congressman BORLAND. And do you feel disposed to do so?

Mr. DOOLEY. Yes; we are stockholders in the boat line and we feel that we are vitally interested in the success of the line. All we need is the service, and that in itself would draw more tonnage.

Congressman BORLAND. So that the season of 1915 is just about the beginning of your real use of the river?

Mr. DOOLEY. We hope so; yes.

Congressman BORLAND. Now, you are, of course, one of several soap manufacturers here?

Mr. DOOLEY. Yes.

Congressman BORLAND. I wish you would state to the board what has been the effect upon the soap rates of the opening of the Panama Canal, the ocean-to-ocean soap rate?

Mr. DOOLEY. Why, the effect has been that the manufacturers at seaboard have now, by the use of vessels operating through the Panama Canal, a rate of about 40 cents. Our rate from the Missouri River, all-rail, is 80 cents.

Congressman BORLAND. Let me get that a little plainer, please; the rate from Atlantic coast ports to Pacific coast ports is 40 cents?

Mr. DOOLEY. Yes; by boats operating through the Panama Canal.

Congressman BORLAND. And the rate from Kansas City to the Pacific Coast, is what?

Mr. DOOLEY. Eighty cents, all rail. I might add to that, that the transcontinental lines, recognizing the force of that competition, have made application to the Interstate Commerce Commission to put in a 60-cent rate on soap from the Missouri River, and east, to meet that competition. That permission has not been granted them as yet. I merely mention that to show that they themselves recognize the force of the Panama competition and see that it is necessary to take at least some steps to get it. I do not think that that relief, even if granted, will be adequate.

Congressman BORLAND. You think that the competition by way of the Panama Canal will still be very serious for the transcontinental railroads?

Mr. DOOLEY. Undoubtedly it will be very serious as more boats get into the service. At the present time they are operating under somewhat abnormal conditions. There are lots of boats in the Atlantic service which should be in the coast-to-coast service.

Congressman BORLAND. Mr. Bland is peculiarly familiar with this matter, and I want to ask him to conduct this examination. I started it without thinking that we had agreed that he would conduct it.

Judge BLAND. You say the railroads have applied for a 60-cent rate?

Mr. DOOLEY. Yes, sir.

Judge BLAND. In your opinion, Mr. Dooley, will that be an adequate reduction?

Mr. DOOLEY. I just said, in my opinion, it was not adequate.

Judge BLAND. And it has not even been secured as yet?

Mr. DOOLEY. No, sir.

Judge BLAND. And if secured, and a reduction made to the 60-cent rate, there would be a 50 per cent differential against you?

Mr. DOOLEY. Yes, sir.

Judge BLAND. In favor of the ocean-to-ocean rate?

Mr. DOOLEY. Yes, sir.

Judge BLAND. And as a result of that, you would be compelled to abandon your Pacific coast trade, or absorb that differential?

Mr. DOOLEY. Yes.

Judge BLAND. Or move to the Gulf coast or seaboard?

Mr. DOOLEY. We would have to move to tidewater.

Judge BLAND. And the same condition applies to all soap manufacturers, enjoying trade throughout the United States, as you do, that are located in the Mississippi Valley?

Mr. DOOLEY. Yes; that is true.

Judge BLAND. Your trade extends throughout the United States, does it not?
Mr. DOOLEY. Yes, sir.
Judge BLAND. And you have some export trade?
Mr. DOOLEY. Yes, sir.
Col. NEWCOMER. Do you figure that the improvement of the Missouri River would relieve you of that handicap?
Mr. DOOLEY. Yes, to this extent: That it would give us an avenue for reaching tidewater which we do not now possess.
Col. NEWCOMER. Do you think that you could beat the 40-cent rate from New York by going down the Missouri and the Mississippi Rivers and thence by ocean?
Mr. DOOLEY. No; I do not say that, but it was shown at the hearing on the river, or the several hearings on the river referred to, that the boat lines reach out far into the interior for freight. For instance, they reach into interior Ohio points for freight for the Pacific coast, and that would indicate that they absorb a certain percentage of the business of the rail carriers to the seaboard, and even make a rate that would take the business in competition with an all-rail rate from the point of origin. If we could get an adequate rate to New Orleans, for instance, we would at least be in a position where we would be on a parity with numerous eastern manufacturers.
Chairman BLACK. In other words, Mr. Dooley, you think that the rate of a manufacturer in Ohio, by rail to the Atlantic coast and then via the canal, would be about the same as your rate if you could go by water from here to New Orleans and then by water from New Orleans?
Mr. DOOLEY. Yes, sir; I think so. There are no boats at present billing from St. Louis, but the last time they quoted the same rate from New Orleans to the Pacific coast that they are quoting from New York to the Pacific coast. So, for that reason, I say that if we had an adequate rate from here we would be in the same position as eastern manufacturers.
Judge BLAND. It has been stated here that a 28-hour service or schedule could be maintained down the river to St. Louis, on an improved channel. Of course the consumption of fuel going down the river is much less than propelling up the river, with the current to assist the machinery of the boat. Now, the extent of your relief would be the extent of the reduction of the rate that could be offered you by the navigation company operating boats, would it not?
Mr. DOOLEY. Yes.
Judge BLAND. And that would be left to the boat line company to reduce that rate to meet the conditions?
Mr. DOOLEY. Yes, sir.
(Witness excused.)

C. D. PARKER, called as a witness, testified as follows:

Congressmen BORLAND. State your name, please.
Mr. PARKER. C. D. Parker.
Congressman BORLAND. And your business, Mr. Parker?
Mr. PARKER. Vice president of the United States Water & Steam Supply Co.
Congressman BORLAND. What is the line of your goods?
Mr. PARKER. It is steam fittings and plumbers' supplies, all kinds of enamel ware, bathtubs, lavatories, kitchen sinks, and all that kind of enamel ware.
Congressman BORLAND. Are you jobbers and wholesalers of that class of goods?
Mr. PARKER. Yes, sir.
Congressman BORLAND. What use have you made of the river in transporting your line of goods?
Mr. PARKER. It is my understanding, from our freight man, that we made the initial shipment in our line.
I want to explain to the board that our line is of such a character that a little chip off of an enamel tub ruins the tub. There is no such thing as partial damage at all; it is beyond redemption when it is chipped. Therefore, we were very careful about starting in to use the boat line at first, and our first shipment in 1914 was a very small amount; it was 2 or 3 or 4 or 5 tons, and Mr. Poland kept after us and finally an arrangement was made so that we could get terminal service of reloading our stuff at the dock and shipping it around by cars on the belt line, and in the last year, 1915, up to the present time, we have, as I understand it from our freight man, handled about 100 tons, or very close to it, and he tells me this morning that there will be quite

a large amount for the balance of the year shipped in, and next year we will more than double our this year's business, and that the service of the boat line has been perfectly satisfactory, and we have had less damaged goods than we ever have had on the same amount of goods shipped before. I think Mr. Burkhart testified last night in regard to that matter. He said, I think, that they had claims for two tubs. We have not had any claims against them.

Congressman BORLAND. You are just practically beginning, then, your use of the river?

Mr. PARKER. Yes, sir.

Congressman BORLAND. So in 1913 you were not using the boat line?

Mr. PARKER. No; and not in 1914. We have always stood back, and while we are subscribers to the boat line, from a public-spirited standpoint, realizing that it was our only salvation to have the river. At the same time we did not feel that we could avail ourselves of the 20 per cent saving we could have made in shipping our goods by the river. I am only in hope that they will get so they can handle our pipe.

I want to explain that to you. Pipe is a sort of bulky freight, too, and if you tumble it around too much you break up the threads and all that kind of thing, and that is a matter yet to be figured on and worked out. They are handling our fittings.

The principal points of shipment have been Louisville, Detroit, and St. Louis so far.

Congressman BORLAND. So, that if the boat line is to be favored as a transportation line, it has to convince the merchants that it can adapt its line to their business?

Mr. PARKER. Yes.

Congressman BORLAND. And that is a matter of comparatively slow growth?

Mr. PARKER. Yes.

Congressman BORLAND. The business men must be convinced that it is a permanent factor and equipped with facilities to handle their lines of goods?

Mr. PARKER. Yes; and the business men must be able to get insurance.

I want to state here that we were in the first boat line that started, and we have three carloads of pipe in the bottom of the river on account of snags and bad condition of the river, and that made us scary and we have not taken hold of it from the standpoint of shipping as we expect to now.

I want to say that service with all of us is a very important factor. It is my understanding that so far as the shipments have gone, we are about four days late, we will say, anywhere from two to four days late, that is the longer time by river than by rail. We anticipate that in our orders and that is all right; but if they get stuck on a sand bar down here two weeks, we can not use it; neither can anyone else. So, as the sand bars and snags disappear, the opportunities to use the river increase.

Congressman BORLAND. Mr. Parker, with a regular schedule of the boat line and a permanently improved channel and reasonably prompt delivery, how much, if any, can your tonnage be increased?

Mr. PARKER. I have just made the statement awhile ago that it would be more than doubled this coming year.

Congressman BORLAND. More than doubled this coming year?

Mr. PARKER. Yes, sir. I should say that we would ship anywhere around 400 to 500 tons this coming year.

Congressman BORLAND. And what you say of your business is typical of the plumbing-supply business in this market?

Mr. PARKER. Yes; and I want the board to understand that our goods, I do not believe that there are any goods more delicate to handle. It does not look that way because they are iron. You take our friend Bland here of the McPike Drug Co., and if he has a few bottles of drugs broken in a box the rest of the package is good, but our package, if it is hurt at all, is hurt irreparably and we would get nothing out of it. I have seen on the Pacific coast a carload of tubs and sinks broken up with a sledge hammer and they would not let them go on the market at all in the interest of their reputation as manufacturers; they could not afford to; so they broke them up and sold them for old iron.

Congressman BORLAND. But even with that class of goods you have had satisfactory results?

Mr. PARKER. Yes, sir; we have not had one claim against the company so far. We are very much interested in it.

I want to say here that I lived on the Mississippi River as a boy and saw the ups and downs of shipping on the Mississippi River. I saw it in its palmy days

with elevators on the water side for the receipt of grain and towboats with large barges of wheat coming down the river for delivery to these elevators and for shipment on into Chicago. And that thing went along until they paralleled the river with two railroads, and then they whipsawed them; in the summer the rates would go down on the railroads and in the winter they would go up. Whenever the river was frozen up they would charge excessive rates and when it was open they would give them a lower rate again. So they whipsawed the boat line, even Diamond Joe with his millions, by manipulating the rates in that way. But that thing is changed now, and my understanding is that the railroads can not do that any more, but that when they make a rate they have to stick to it. And that is our reason for believing this boat line would be a success and the subscription of our company, while not large, was made with the idea that this thing was a permanent proposition, or could be made permanent.

Congressman BORLAND. Has the board any further questions?

That is all, Mr. Parker.

(Witness excused.)

Congressman BORLAND. Mr. Bland wants to recall Mr. Dickey.

WALTER S. DICKEY, recalled, testified further as follows:

Judge BLAND. You are the Walter S. Dickey who was before the board yesterday?

Mr. DICKEY. Yes, sir.

Judge BLAND. You are president of the Kansas City, Missouri River Navigation Co.?

Mr. DICKEY. Yes.

Judge BLAND. Mr. Dickey, the question has arisen as to the influence of ocean-to-ocean rates via the Panama Canal as being against the products of the manufacturers in this territory. I will ask you, Mr. Dickey, whether the cost of operating the boats downstream is less than the cost of propelling them upstream between here and St. Louis?

Mr. DICKEY. Yes, the cost of operating the boats downstream is very much less than upstream, and we can afford to move freight at a less rate when we are going downstream.

Judge BLAND. Have you had any discussion about or given any consideration to the question of making the downstream rate separate and independent of the upstream rate?

Mr. DICKEY. We have, in the privacy of our little organization, at the navigation office all of last season. We gave very serious consideration to the question of reducing the downstream rate to increase the tonnage. Our boats early last year were running light downstream and loaded upstream every trip, and we hesitated, of course, about going beyond a reduction of 20 per cent on freight below the rail rate, absorbing the switching charges at both ends, but we nevertheless wanted to load the downstream boats, and we had in consideration that plan when we found that it would not be necessary and that we could get loads downstream, principally of grain and grain products.

Judge BLAND. In operating upon an improved channel and in conflict with the rate that may be made from ocean to ocean via the Panama Canal, what reduction do you think could be made by the boat-line company, operating to its full capacity with full equipment, upon an improved river, in the downstream rate as against the upstream rate?

Mr. DICKEY. I would not think it would be at all out of reason to say to this board and to the business interests of this city that with an improved channel and our increased equipment, as we have provided, we could cut the downstream rail rate in two and maintain it profitably. The rate between Kansas City and St. Louis, that 300-mile stretch across the State of Missouri, is unusually high by rail, and it would still yield us a very satisfactory rate on an improved river with enlarged equipment and full loads downstream even if we cut the rail rate in two.

Senator REED. Is there any doubt about your having full loads downstream at such a rate as that?

Mr. DICKEY. Absolutely none, if we had three times the equipment we now have.

Senator REED. I want to ask you if there is not a practically unlimited, that is, for all practical purposes unlimited supply of grain, meats, farm products of various kinds, as well as manufactured products to be carried to the East from Kansas City?

Mr. DICKEY. Yes, sir; it is practically unlimited and is simply enormous. Until you get into it and begin to calculate it you can hardly appreciate it. As a matter of fact, we have never hauled meat, but the grain products—flour, bran, alfalfa, and alfalfa meal—come to us in straight barge loads. And that is the business that every day the six or seven rail lines that run from here to St. Louis carry. We have had but a small proportion of that.

Senator REED. Is there not enough of that business in the counties of Missouri that touch the river to keep not only your boat line but two or three boat lines busy?

Mr. DICKEY. There certainly is, and the 20 counties bordering upon the Missouri River, when we can give them a dependable, regular service, will more than supply the present line without the terminal freights offered not only in those products but the bulky commodities, the stuff that fills the hills, such as clay, coal, silica sand, cement rock, which would be available on the way downstream.

Senator REED. Are you familiar, in a general way, with the character of those counties as to population and agriculture which touch the Missouri River through the State of Missouri?

Mr. DICKEY. I am in a general way.

Senator REED. Is it not a fact that they constitute as rich a territory in agricultural products as anywhere in the United States?

Mr. DICKEY. I think they do, and my business takes me all over the United States. These 20 counties bordering on this Missouri River, this board will readily appreciate, were the ones first settled when the State of Missouri was opened for settlement, prior to statehood, and were settled with pioneers from Kentucky, Tennessee, and Virginia, who built and made the first settlement in Missouri. They came to those counties, and they are the richest counties in the State in that respect and in the West to-day in my judgment.

Senator REED. And are not the natural advantages of the land, in your judgment, equal to any similar territory in extent that can be found anywhere in the United States?

Mr. DICKEY. That is true, and I say it with knowledge of the various parts of the United States. If these banks were revetted and fixed and the shore line established so that our citizens could dike and levee in behind them with immunity and with certainty that their levees would not be destroyed, that valley would be ablaze with farming industry all the way from here to St. Louis.

Senator REED. I am not speaking entirely of the Missouri River Valley and that part which sometimes overflows, but I want my question to embrace the uplands of the counties as they are regardless of any protection against water.

Mr. DICKEY. I appreciate your point, and it is a fact that they are among the richest counties, not only the valley land, but the upland. But for miles the river sweeps the foot of the bluffs, and these gentlemen have recently been over it and are familiar with it.

(Witness excused.)

JOHN W. MCCOY, called as a witness, testified as follows:

Congressman BORLAND. State your name, please.

Mr. MCCOY. John W. McCoy.

Congressman BORLAND. And what is your business connection?

Mr. MCCOY. I am traffic manager for William Volker, of Kansas City, and the Western Shade Cloth Co., of Chicago.

Congressman BORLAND. You are traffic manager for William Volker, of Kansas City, and allied manufacturies at other points?

Mr. MCCOY. Yes.

Congressman BORLAND. Do you want to explain something in regard to rates from your own personal knowledge?

Mr. MCCOY. I would be glad to do so.

Congressman BORLAND. I wish you would please explain that to the board.

Mr. MCCOY. I wish to explain with reference to this Panama Canal competition.

Congressman BORLAND. You have been a railroad man, have you not?

Mr. MCCOY. Yes, sir.

Congressman BORLAND. How long has been your experience in railroading?

Mr. MCCOY. I was with railroad companies a little over 13 years, in the operating and in the traffic department. I was in the traffic department when I went to William Volker 12 years ago.

Congressman BORLAND. So you are familiar with rate making from the traffic end of the railroad, are you?

Mr. McCOY. Well, yes, sir.

Congressman BORLAND. All right, proceed, Mr. McCoy; I just wanted to show that in the record.

Mr. McCOY. About the time the American & Hawaiian Steamship Co. commenced giving satisfactory service across the Tehuantepec Railroad Mr. Volker came to my desk and said, "What do you suppose the rate will be on window shades when the Panama Canal is opened?" I said, "About what the rate is from Kansas City to St. Joseph to-day." He said, "What did you pay on the last car of linoleum from Dundee, Scotland, to Philadelphia?" I said, "21 cents." He said, "I think the rate will be 25 cents from New York to San Francisco." I said, "That is the rate from Kansas City to St. Joe."

In Chicago we have an investment of $2,000,000. We paid out there last year for materials, labor, and selling expenses, $594,000. We paid into Chicago, on raw material, on 140 cars, 58.1 cents per 100 pounds from Fall River. Our main competition is in the Oswego district of New York. On the same commodities they pay from Fall River to Oswego 23.6 cents. They pay back to New York the same rate, 23.6 cents. Last week we had a quotation from the steamship line from New York city to Seattle of 75 cents on window shades in quantities. At the present time, effective until yesterday, our rate from Chicago was $3 a hundred.

Now, the rate on window shades from Oswego, N. Y., to all points south of Cairo, Ill., is as great as it is from Chicago to those points. The rate on window shades from Oswego, N. Y., to New Orleans is 70 cents. The rate from Chicago to New Orleans is $1.10, and that parity will spread out all over the South. Now, it resolves itself into this: If it is just the improvement of the Missouri River it would not do the central west much good, if it is just between St. Louis and Kansas City; but if it is carried out down the Mississippi River I am sure the competition will allow manufacturers in Chicago and Cincinnati to compete with those in seaboard territory. If relief is not given interior manufacturers, then the $594,000 we have expended in Chicago last year will be expended over in the seaboard territory; and if it affects a small industry like ours, it is going to affect every industry in the Mississippi Valley.

Charman BLACK. You speak of the great necessity for having water transportation down the Mississippi. I suppose you know that the facilities, as far as navigation is concerned, exist now, and if it is so very necessary for these manufacturers, why is it that there is no water transportation between St. Louis and New Orleans to speak of? Why, if that is so vitally necessary to manufacturers throughout the Mississippi Valley, are there not properly conducted freight lines now by water?

Mr. McCOY. Colonel, up until about 12 years ago the railroads did not collect more than 40 per cent or 60 per cent of the rates that were published, and that system allowed these manufactories to grow. No one paid the tariff. Since the Elkins bill and the recent interstate commerce regulation we pay the tariff. Before that, lots of these factories were built up on preferential rates.

Senator REED. Rebates?

Mr. McCOY. Yes, rebates.

Chairman BLACK. And yet I do not know of any movement on foot by manufacturers to establish water transportation on the Mississippi where there is plenty of water. I know of no line on the Mississippi comparable with this line you have on the Missouri.

Mr. McCOY. But if a comprehensive scheme of inland waterway improvements goes, there will be other boat lines.

Chairman BLACK. For the manufacturer at Chicago, the improvement, as far as the shipment of his goods to the Pacific coast is concerned, the improvement of the Missouri River between St. Louis and Kansas City would not be of any avail?

Mr. McCOY. No, sir.

Chairman BLACK. You spoke of the necessities of the manufacturers in the Mississippi Valley itself, and you made a very strong point that water transportation must be given, and yet there is no movement on the part of those manufacturers, as far as I am aware, toward the establishment of such water transportation, with the facilities right there.

Senator REED. Will you pardon an interruption?

Chairman BLACK. Certainly.

Senator REED. There has been a movement on for years known as "Fourteen feet from St. Louis to the Gulf." They have encountered all sorts of obstacles and that movement is still on. I do not speak by the card, but my understanding is that there are bars in the Mississippi River that reduce the depths so that boats of the character necessary to operate from St. Louis to the Gulf can not be run over those bars.

Chairman BLACK. Senator, you are mistaken; there is at least 8 feet, and always has been, from St. Louis to New Orleans.

Senator REED. What they want is 14 feet.

Chairman BLACK. They can get navigation plenty on the 8 feet; that has been shown. That has been the condition for a number of years, and no advantage has been taken of it, and it is questionable whether they could get any more advantage from the 14 feet than from the 8 feet for the character of navigation possible on the Mississippi River.

Senator REED. The business men of St. Louis think they will.

Chairman BLACK. Yet they do nothing to avail themselves of this 8 feet.

Senator REED. They have no regular service such as is necessary, and business men seldom go into building boats against the railroads. However, we can take that up later.

Mr. GOLTRA. Pardon me, but this is an important matter; will you allow me to interrupt the proceedings for a moment?

Chairman BLACK. Yes, sir.

EDWARD F. GOLTRA testified further as follows:

Mr. GOLTRA. By reason of the improvement of the Mississippi River betwen St. Louis and the mouth of the Ohio, St. Louis has, as I said last night, established a $2,000,000 coking plant. The only reason why that coking plant is there to-day is because we saw that we would be able to take the coking coal which comes from eastern Kentucky down the Ohio and up the Mississippi as a direct result of the improvement of that river, and within a very short time after we knew that we could depend upon that amount of water in that channel, a $2,000,000 plant was started and is now completed and is in operation and desires to send its product, namely, coke, up the Missouri River by barge from St. Louis.

Chairman BLACK. Yes, that has already been stated.

Senator REED. How about boats being now prepared to operate on that part of the river?

Mr. GOLTRA. Jones & Laughlin, the largest independent steel and iron company in the country, is now building a large number of barges for the purpose of distributing down the Ohio and down the Mississippi, and up the Mississippi certainly as far as St. Louis, their fabricated steel products. A number of boats are already constructed to now utilize that very channel, but, Col. Black, and gentlemen, you must understand that business men will not take advantage of something they think is going to materialize, they want to know that it is going to be a permanent thing before they will invest thousands and thousands of dollars in the business—in the boats necessary to take advantage of the river improvement.

Senator REED. Mr. Goltra, when was that channel established? How long has it been established?

Mr. GOLTRA. I am not prepared to state, Senator, just when it was a demonstrated fact that we could depend upon 6 feet of water between St. Louis and Cairo, but it is a comparatively short time ago. The records will show when 6 feet was positively to be maintained there at all times in the year.

Judge BLAND. Col. Black, may I incorporate a suggestion?

Col. NEWCOMER. It is my understanding that that channel, at least 6 feet in depth, has been maintained the last 7 or 8 years.

Mr. GOLTRA. I think it is about 5 years, but I am not positive, Col. Newcomer.

I will also call your attention, gentlemen, to the fact that when they turned the water in from Lake Michigan, right away things improved tremendously and as a result of that they put in those large transfer boats just below Carondolet, below St. Louis. They were satisfied there was enough water there at all times of the year to warrant the expenditure of that large sum of money.

Col. NEWCOMER. Let me ask you, Mr. Goltra, is your coal being brought by boat to your coking plant?

Mr. GOLTRA. They have brought up fleets of coal, I think, 25,000 tons in a movement.

Col. NEWCOMER. I mean, is it receiving all of its coal by river?

Mr. GOLTRA. Not all of its coal.

Col. NEWCOMER. What proportion of its coal is it receiving by river?

Mr. GOLTRA. That, I am sorry to say, I am not prepared to state, but the Laclede gas light people are contemplating putting in a steel barge line to bring in all of their coal by that means.

Col. WINSLOW. What arrangement have you for handling coal when it gets to St. Louis?

Mr. GOLTRA. The Union Electric Light & Power Co. have established their plant on the river just above the Eads bridge, and when the barges are brought up there, by electric hoists they drop grab buckets into the barges and hoist it to the elevator above.

Col. WINSLOW. Have you any such arrangement at your plant?

Mr. GOLTRA. We are right on the river and the same method is contemplated for loading and unloading barges at that plant.

Col. WINSLOW. But you have not put in the unloading plant as yet?

Mr. GOLTRA. No, it has not materialized yet, but it is in course.

Col. WINSLOW. There has been a great deal of evidence before the board to the effect that transportation from these interior cities down the river to New Orleans is so important on account of the opening of the Panama Canal. Now, if the Kansas City people have been so enterprising as to establish this boat line and run it for years at a loss, why can not St. Louis operate a line down the Mississippi?

Mr. GOLTRA. Not only would it pay, but St. Louis is considering that. And more than that, St. Louis is considering the establishment of a barge line and bringing coal north and taking ore south, and the Burlington has built a line across Illinois to get into the southern Illinois coal field.

Mr. Hill appreciates the possibilities of the movement and they are now prepared to move 1,250 50-ton coal cars north every day in the year. And the movement of coal up the river and ore down the river, on account of the improved condition of the channel right at the mouth of the Missouri River, which has been a bugbear for a long time, owing to the water coming in now from Lake Michigan, is what makes that possible.

Judge BLAND. Col. Black, may I incorporate a suggestion?

Chairman BLACK. Yes.

W. T. BLAND testified as follows:

Judge BLAND. The suggestion I wish to make is that the potential influence of the Mississippi River in rate making has existed during all these years. The rate for the distance of 1,127 miles from New York to St. Louis is 88 cents now; it was 87 cents. The rate across the State of Missouri, 281 miles, is 60 cents, three-fourths of the rate when the distance is but one-fourth. This potential influence has existed during the years and maintained that rate. There has been no great disparity between internal rates and the ocean-to-ocean rates until the completion of the Panama Canal. And that very fact will compel the use of the river by the manufacturers in the central part of the United States, including St. Louis, so that they may compete, and that the extension of the operation of boats will be made from St. Louis down the Mississippi River we have not the slightest doubt, because necessity compels, and if that takes place it will be an important factor.

Chairman BLACK. Mr. Poland gave us a most illuminating thought yesterday illustrating the elements that go to the success or failure of water transportation. We know there are barges being built by a company for water transportation on the lower Mississippi River, but on the showing made so conclusively by Mr. Poland last night that barge line promises to be as little a success as previous or existing lines. Now, that has nothing really to do with the Missouri River, but when the witnesses now before us speak of the necessities of the manufacturers for exactly the kind of barge lines that you have established here on the Missouri River between Kansas City and St. Louis I could not help but wonder why, in order to complete your work and continue this water transportation, a movement of the same kind is not on foot on down the Mississippi River. I have seen no evidence of it at all except the instances given by one or two industries for their own purposes making use of it, but that is not a general transportation plan.

Judge BLAND. These matters will of course develop slowly. Now, for example, Mr. Dickey is a very large manufacturer, the largest manufacturer of sewer pipe in the United States, and he has located six plants on water—on the Missouri, the Mississippi, and the Tennessee—near large coal production, and he has

located those plants in contemplation of the use of the river and has invested many thousands of dollars of money.

Mr. Mackie here is familiar with the situation as to what is done with the boat line, and if you will permit him at this point to make a statement it would fit in the record very nicely.

Chairman BLACK. Have you finished with the witness?

Congressman BORLAND. Will you finish, Mr. McCoy?

JOHN W. McCOY, recalled, testified further as follows:

Mr. McCOY. I am satisfied there will be traffic on the river unless the project is killed and the people become discouraged.

I want to say about the rates through the Panama Canal, that what steamers have put into New Orleans have asked the same rate as they do out of New York; but if there is any number of them going in there, that is likely not to be true.

In the latter part of last July we had 50 tons of linoleum at Philadelphia to move to Seattle, and the railroad rate at that time was $1.10. The steamship company said they would take 60 per cent of whatever the rail rate was. When this steamer got ready to go back to Philadelphia from Seattle they began to look for tonnage, and we moved that freight from Seattle to Philadelphia at 35 cents a hundred, and moved it in 34 days. If you are at New Orleans whenever vessels put in there, and you have tonnage to offer them, they will make a rate that will permit you to compete with the factories in the New England States.

Well, they published—the other day they quoted 60 cents out of Philadelphia and they took shipments at 45 cents, the present rail rate being 75 cents on that commodity. And if we can get our manufactured products of the Mississippi Valley down to New Orleans we will have the world for a market. We are window-shade makers and jobbers of linoleum; we are not transportation people. Before we would hazard our money in transportation business it would be better for us to move our factory to New Jersey or Connecticut, where we would have the whole world for a market. And, by the way, the freight from Connecticut back to Chicago on our material, which is worth 2 cents a yard, is the same as it is on material worth $1 a yard—that is, the better grade of material. And when we pay 58.1 cents for our muslin, that is a very low grade. We pay it back to New York. Of course, we have options on buying some of that material in the South, which we could move up the Tennessee River and into Chicago if the time comes when we can get that service.

Col. NEWCOMER. I want to direct your attention to one point—about the advantages of manufacturers at the seaboard. There is a certain amount of interior territory that is available to you for a market, is there not?

Mr. McCOY. No, Colonel, not when the freight from that territory—from the manufacturing point back—is the same as we pay on our finished product. That would be the saving of freight if our factory was located in Connecticut to-day; we would be laying our manufactured product down at Chicago at practically the same rate we pay on raw material.

(Witness excused.)

A. W. MACKIE, recalled as a witness, testified:

Congressman BORLAND. The president asked the question why, if they have water in the Mississippi, the Mississippi is not used, and he seemed to have the impression that no attempt is being made to use it, and as fearing that a barge line now proposed—self-propelled barge that I think you referred to as being built on the Ohio River—does not promise very much success. What have you to say about that?

Mr. MACKIE. I do not care to go on record as to my judgment of what that barge line will do, but on behalf of our company I want to say that having explained to you the difficulties we went through in getting equipment and determining what to use has enabled us to give information, I think, of value to other people who are interested in inland water transportation; and only within the past five months have we been called on for actual data as to the cost of barges, where they could be built, the cost of towboats, the cost of operation of towboats. And we have been called in conference in St. Louis with regard to the building of the terminal, and those business men have been asking those serious questions, and to my mind that indicates that they are taking up the question of navigating the Mississippi. It is true and would

have been true on the Missouri had somebody been giving out interviews as to what he was going to do with a certain kind of barge and how cheaply he was going to move freight without regard to its class and commodity, possibly even in the face of a necessity it would have been difficult to have raised a million dollars in Kansas City to put our boat line in service. And that attempt on the Mississippi and that line of talk on the Mississippi may have deterred the business men there from going into river transportation. But since the opening of the Panama Canal and since the Mississippi River's potentiality is gradually disappearing, or they fear it is going to disappear, and since they are obliged to reach the seaboard, if St. Louis proposes to remain a manufacturing city of any importance, it puts St. Louis somewhat in the position that we were in five years ago, and the necessity will undoubtedly, with the steps that have been already taken, create a line on the Mississippi; and I do not speak just at random on that, because we are vitally interested in a Mississippi River line, knowing that when freight can be moved to and from New Orleans and give us a connection out of St. Louis there will be a very great increase in the tonnage and in the service we can render to Kansas City, and we have kept very close tab on the matter and have known of all the attempts that have been made to use the river and know how foolish some of them were, and have attempted to aid our friends across the State by showing up from our experience the mistakes that would be made by following the lines proposed. But now they have asked for and have had the actual data based on what we have learned, and we feel very sanguine as to the early start on the Mississippi River of a towboat and barge line.

Now, I would like to go just a little bit further and say that the operation of packet boats on the Mississippi River has always been an excuse to a certain class of men not to put up any money for river transportation. Their answer to every such request has always been, "We have river transportation." They are learning only now that it is not effective river transportation, and that before you can carry carload freight you must get away from the idea of port-to-port business. That is not of importance in the present day of economic development and the development of transportation; and those men who have always laid back on the boats that they have—well, we all know, of course, the steamboat story of "What I am going to do with something entirely new and created in my own mind, and how cheaply I am going to haul freight," and what effect it has had on giving the impression that it would not be a success on the Mississippi River. But the fact that we have had barges sailing into and out of St. Louis all the time has begun to have its effect, and the necessities that confront St. Louis, we feel very sure, are going to result in their adopting the towboat-and-barge method of transportation with the idea of an exchange of barges moving from point of origin to or as nearly as possible to the point of destination. By that I mean that a line when organized should contemplate taking barges when we have New Orleans freight, through from St. Louis, where we will deliver the barge to the other boat line to be carried through to New Orleans without breaking bulk, and that they will bring our barges back from New Orleans with freight destined to Kansas City or Missouri River points without breaking bulk or transferring at St. Louis.

Chairman BLACK. You understand, Mr. Mackie, that what I said was not at all a criticism, you know, of the system of self-propelled barges——

Mr. MACKIE (interrupting). I understand.

Chairman BLACK (continuing).—But it was somewhat on the ground that the line of those barges as proposed, as far as I can make out, would not fulfill the other requisites which were named by Mr. Poland as essential for successful river transportation.

Mr. MACKIE. I understand that very well, and I thought it might be very well to give you the information we have and what we think is going to develop in the Mississippi River. I appreciate it is not of as great value as it would be to tell you that there were barges operating down there now, but the necessity does create the service. It created it here between St. Louis and Kansas City, and very much the same conditions are developing down there, which we feel sure are going to create the service. And having already the nucelus of an inland water line which will connect with that, they won't have to start at the bottom as we had to start. And we are very cheerfully giving all the time, actual data, and information to people who are seriously going into the question of river transportation, and we are glad to help them because it helps us.

Chairman BLACK. It is very evident that the value of river transportation on the Missouri would be greatly enhanced were it possible to continue that transportation under the same favorable auspices to the seaport.

Mr. MACKIE. Yes, sir.

Chairman BLACK. Is Kansas City itself making an effort to provide that?

Mr. MACKIE. Not with our own capital or our own equipment. We first want our own problem solved and our own tonnage developed by the Missouri River. We are not yet able to take care of the tonnage that does pass east and west in our territory alone. We are all acquainted with the big freight movement east and west in the United States and with our present capacity and our capacity as it will be developed in the immediate future we will not be more than able to take care of our business that is in sight; but we would delight in water connection at St. Louis because it would be of advantage to us and would give our customers a through water route from New Orleans and a through water rate to points down there, and we are also concerned in the same way in the development of the Illinois-Michigan Canal because a great quantity of our freight comes from Chicago and moves from Chicago via East St. Louis by rail, and we could just as well have it move all the way from Chicago by water, having moved by lake into Chicago, and would give our customers out here a larger advantage in dollars and cents by reason of the differential rate.

If we could get a connection above and a connection below St. Louis, and we feel very sure that the time is not very far in the future when we will, we will be better able to serve our people in Kansas City and in the West, and we know that service is the basis of all the success we may ever hope to obtain in transportation.

Chairman BLACK. You mentioned there the possibility of carrying one of your barges through without change of bulk, New Orleans to Kansas City. Now, if your plant is not sufficient to handle your present tonnage you would have to increase the number of your barges if you were going to loan them to the other company, or would there be an exchange of movement?

Mr. MACKIE. I meant to give you the impression that we were trying to encourage the building of barges and the adoption of the towboat-and-barge idea in order to enable the transfer of barges, just like the exchange of railway cars, so that we could exchange them.

Chairman BLACK. Like the railroad cars where you see them, regardless of ownership, scattered everywhere?

Mr. MACKIE. Yes. There is no reason why a Mississippi River barge should not be given us at St. Louis with freight for Kansas City and our barge given to the Mississippi line with freight for New Orleans.

Chairman BLACK. Except that you have 6 feet proposed in the Missouri which is actually four, and you have 8 feet from St. Louis to Cairo, and 9 feet from there below. Now, could these small barges, fitted to navigate on four feet of water at the present time afford to travel to New Orleans when the cargoes could go on a barge much better adapted to an 8 or 9 foot channel?

Mr. MACKIE. These barges we have are designed for use on a 6-foot channel and are being used on 4 and sometimes 3 now. There is no reason why a barge loaded 4 feet in the fall of the year, and we hope we will not always have to load for 4 feet, could not go into St. Louis and there have an additional 2 feet loaded on her; and coming back she could have St. Louis freight or Chicago freight or some other point that would be taken out and so lighten her draft. For instance, if a barge came from New Orleans loaded 7 feet or 6 feet and conditions were such in the Missouri River that she could not come up on more than 4, part of that load might be transferred onto another barge.

Chairman BLACK. I just wanted to bring the answers out.

Mr. MACKIE. Yes. That we have in mind.

Senator REED. I want to ask Mr. Dickey a question.

(Witness excused.)

WALTER S. DICKEY, recalled, further testified:

Senator REED. Mr. Dickey, you have been studying this transportation problem a long time. I wish you would tell the board what you know about the reasons for the disapperance of the boat lines from the Mississippi River.

Mr. DICKEY. Mr. President, as I stated yesterday, my business throws me in contact with transportation facilities of all kinds and we never can get

enough of them or too many different kinds. And in answer to the Senator's question about the lack of freight service on the Mississippi River, I have had occasion to investigate that and to study it and it is clear to me that the economic changes that have gone on in the transportation world have, in part, accounted for the disappearance of the boats from the Mississippi and the carrying of the merchandise by the railways. But there are other reasons, the principal one being the keen competition and the close, intense fight made upon the boats by the railway owners. I must confess if I had been an owner or interested in or the manager of a railway line I would have done exactly the same thing.

For many years, without let or hindrance, the railways made rates paralleling the river at ruinously low figures, either openly or by midnight tariffs, concessions, or rebates. I know it, because I took them for years, 40, 50, 60 per cent discounts privately off the rail rates. And one by one those boat lines were driven out of business. The statute of limitations has run out on those offenses, gentlemen, and there is no merchant in the room who did not do the same thing, and that was the basis of the building up of the industry and the jobbing trade of this city. Ask every one of them and they will tell you.

A VOICE IN THE AUDIENCE. And every other city.

Mr. DICKEY. Now, when we first started this navigation company we employed a very distinguished and talented gentleman to assist us as engineer, Mr. Daniel Bontecou. Some of you gentlemen may know him. He was on a visit to New York shortly after he was in our employ temporarily as consulting engineer and he met another old-time distinguished civil engineer, whose name I won't mention just now, but may mention it if thought desirable, and they stopped and greeted each other, and this friend says, "Why, I see you have gotten another river-navigation scheme going out in Kansas City." "Oh, yes; our business men are going to make use of the river for freighting purposes."

And this New York man smiled and said, "Well, you know I was with the Illinois Central for 14 years, and my sole duty was to put a sidetrack into every place or yard or cotton-shipping point or port that looked like a carload of freight and drive those boats off the river. That was my duty." Now, that was the duty of some of the best brains and the best paid talent among railroad men where they paralleled the rivers; to put the boats out of business. They bought shares of stock in the companies operating the boats and finally got control and let the boats go to pieces, tied to their hawsers. I have seen them down there in that condition. They got complete control, bought the boats or bought some of their equipment, so as to lessen their efficiency, and by every known means there was in use in those days they drove the traffic away from the boats, those railways paralleling the rivers, and the rivers gradually fell into disuse. The owners of the boats were rich and affluent in the olden days and they did not see far enough in the future. They did not have their lines coupled up together and capitalized, and little by little they were just pinched out. Now, it is somewhat of a superhuman task to get the boats back on that river, and we never could have done it except for the present laws, which prevent rebating and which, I am pleased to say as a shipper, are enforced, so far as I know, and no effort made to break them.

Senator REED. Now, Mr. Dickey, there has been a good deal of comment on the fact that there is no considerable traffic on the Mississippi River.

Mr. DICKEY. That is what I have been referring to.

Senator REED. And their failure is held up—not here, but it has been generally held up. How about the Ohio River?

Mr. DICKEY. I can only speak in general. I think these gentlemen know more about the tonnage on the Ohio than I do. It is not as big there as it might be, but there is some constant movement of business there, and particularly with regard to coal. And the Ohio has had many millions of dollars spent upon it and is practically slack-water navigation; no current to contend with and no bad places.

Senator REED. Another question, Mr. Dickey: Where have you factories located and in what parts of the country?

Mr. DICKEY. Well, as a producer of a bulky commodity we found it necessary to scatter our production, because if we ship very far the freight is as much as the value of the goods. We manufacture burned-clay products on the Pacific coast, on the Bay of San Francisco; and we make them at Kansas City, on the Missouri River; and we make them at two points on the Tennessee River, where our plants are right on the bank of the river and we can load the goods

directly into the barges there; and we have acquired a plant site with clays and coals in the valley of the Alabama to make use of that improved water system there when the last canal was completed this last season, because the raw material in our line is inland. It is not upon the Atlantic or the Pacific or the Gulf coast—particularly not upon the Gulf coast—the clays and coals, the available materials.

Senator REED. Without going into detail, you are the largest manufacturer of clay products in the United States?

Mr. DICKEY. That I can not answer. I don't know that.

Senator REED. Well, you are a very large manufacturer and you have your plants scattered. Has that led you to study closely the question of the effect of the Panama Canal on freight rates in Missouri and the Mississippi Valley?

Mr. DICKEY. It certainly has.

Senator REED. Will you tell the board what conclusion you have come to?

Mr. DICKEY. I think it has been made so clear here to this board, and certainly it is clear to those of us in the merchandising and manufacturing business in this country, as to the effect of the Panama Canal that it seems perhaps futile to go over it again; but, briefly, with the shortened time and reduced freight rates, both from the Atlantic coast and the Gulf coast to the Pacific coast, and vice versa, it is very clear that the merchants and manufacturers who have had a flourishing and expanding business in the valley of the Mississippi and of its tributaries are going to be outstripped and will be confined and reduced to a purely local business unless this system of inland waterways is improved and put to use in moving freights. I fail to see how our country can get the benefit of the Panama Canal that was contemplated and hoped for unless we use our great inland waterways to freight many lines of commodities to the sea and thereby go through the canal into the Pacific.

Senator REED. Unless you want to add something, or the board desires to ask something, that was all I desired to bring out, because I know the board wants to bring these hearings to a close.

(Witness excused.)

Mr. L. M. KENNEDY. Mr. President, with the consent of the board and counsel, I would like to add a few words on this point. I was a member of the Fifty-ninth Congress, which enacted the law prohibiting rebates on railroad freight rates and business. I voted for that law and was, of course, more or less familiar with the discussions in connection with it. During that same Congress I had an interview with the chairman of the Rivers and Harbors Committee of the House at a time when we were asking more liberal appropriations for the Missouri River, and Mr. Burton put to me and his committee exactly the question which you put to the witness a few moments ago. He said, "If river transportation is so important, why is it that the tonnage on the Mississippi River has constantly decreased?" I said, "Mr. Burton, to me, from the investigation that I have made, the answer is plain. The shipping was rebated off the Mississippi River. The railroads not only met the river rates but they cut under them, and they were not so much interested in getting low rates or high rates as they were interested in getting lower rates and better rates than their competitors, and they went to the large shippers and they made it an object to them to abandon the boats—to abandon the river transportation and ship by rail—and when the railroads had rebated the large shipper off the river transportation line they had ruined the boat transportation on the river."

Now, you can destroy almost anything in a day that takes years to build up, but you can not immediately rebuild it. And that business will never be rebuilt until the business men of this valley and this community know that there is to be no backward steps in the improvement of the rivers and harbors of the country. And just as soon as you say to the people of the country—the business men with the money—that you are going to stand behind this improvement and go through with it, you will have transportation and you will have shipping on the Mississippi River, and you will have shipping on the Missouri River, too. [Applause.]

Chairman BLACK. Didn't you make a mistake, in view of your official position? Should you not have said "we" instead of "you"? We have nothing to do with that.

Mr. KENNEDY. I beg your pardon.

Senator REED. He had you in mind, gentlemen, as the Government, quite properly. [Laughter and applause.]

Mr. KENNEDY. Mr. President, the people of this country look to the engineering department of this Government as a body of well-qualified men to deal with

these questions, and that is especially true since the Government built the Panama Canal with Government engineers. And your attitude on this question will be almost decisive. And that is why I say "you," but I mean more than you; I mean the great Government which you represent.

I want to add one other thing, Mr. President. Mr. Burton said to me then that that was the best answer that he had had to that inquiry and he thought so well of it that he said. "Mr. Kennedy, if you want an opportunity to put that in the Record when this bill comes on the floor of the House, I will give you the opportunity," and he did give it to me, and it is in the Record just as I have stated.

Chairman BLACK. Mr. Kennedy, you know yourself that this opposition—I won't put it that way—you know that in a large part of the country the action by the Senator whom you mentioned, of two years ago, has been greatly applauded. You know that that applause has been based, to a very large extent, on the nonuse of the rivers on which money has been spent.

Mr. KENNEDY. Yes, sir. Mr. Burton said to me then that the way to navigate the rivers of the country and to make them navigable was to proceed to use them. I said, "That is putting the cart before the horse, but it is the rule that you lay down, and I am sure that the people of the West will use the rivers so far as it is practicable to use them." But suppose that you had raised this same question in regard to the Union Pacific Railroad when it was 9 per cent constructed? Do you think you would ever have finished it? After you had built the Union Pacific Railroad 9 per cent if you had said, "Lo, and behold, you have got to develop traffic sufficient to warrant the completion of this railroad," would you have gotten any results?

Chairman BLACK. I must object to the number that you use, sir—the personal pronoun.

Mr. KENNEDY. I beg your pardon, but I do like, Mr. President, to make whatever remarks I do give you pointed, and I am looking at you now.

Chairman BLACK. We, as a board—or we, as engineers—have made no objection.

Mr. KENNEDY. Not only in my judgment should this report of Col. Deakyne be disapproved, but the next Congress should strike out that section 14 entirely or so modify it that the public will know that this is not going to be reexamined and not going to be questioned again. Now, I say that it is definiteness that we want, and if the Government will only make it plain that this money is going to be spent, Omaha will follow the example of Kansas City and St. Louis will, too, and we will have river transportation of all kinds and will build up this central part of the country.

Mr. DICKEY. We had their promise when we spent ours, you know.

(Witness excused.)

Congressman BORLAND. Will Mr. Hardenbergh come forward?

C. M. HARDENBERGH, called as a witness, testified:

Congressman BORLAND. Mr. President, the essence of this hearing is that the Missouri River people have actually used their river, and have found a practicable and profitable way of using it, and we believe that that is solving the question of river navigation. We realize that the question of whether freight rates at particular points, as, for instance, St. Louis, have been in the past potentially controlled by the river—as long as they have been potentially controlled there is no inducement to go through all the work we have gone through in establishing the boat line; but we believe the time is coming now when rates are not potentially controlled by the mere existence of the river, and we are basing this upon the fact that we have found a practicable method of using the river transportation. That is the essence of the testimony that we are now introducing, and we think this testimony, whatever it may have been, goes to the Mississippi and will apply to the Mississippi under the conditions of the immediate future.

Now, Mr. Hardenbergh, you are the manager of the Southwest Milling Co.?

Mr. HARDENBERGH. I am; yes, sir.

Congressman BORLAND. That is a very large flour mill?

Mr. HARDENBERGH. We are the largest mill in the city.

Congressman BORLAND. Now, there is a statement beginning on page 114 of the brief that is there on the table, and I want you to tell the board to what extent you have used the river during the nine months of the present year of 1915, and I want you to tell the board how much you have used it in 1914 and 1913, and show the increase in your traffic in those two seasons.

Mr. HARDENBERGH. During the season of 1914 we used the river not at all. Our business was solicited, but we did not use it. We were a little bit skeptical, to be frank with you. Last spring—the spring of 1915—business was solicited again, and we went into the matter very thoroughly—the matter of insurance, etc., loss and damage, that was all entered into. As to those matters, we had been a little skeptical before, and we started in and found the business very satisfactory, and we shipped about 4,000 tons. We offered the boat line more, and they could not take it. They did not have the space. We were about the first mill to start to use it, and as soon as we started to use it everybody else wanted to use it, and they got filled up, and they had to turn us down.

Now, 4,000 tons is a drop in the bucket. Our business is such that the flour which we manufacture goes largely to the eastern territory. The Western States, as you know, grow considerably more wheat than the local consumption calls for, and it has to go somewhere, and it goes east because the consumption is east rather than west. And figuring out the total amount of tonnage which is available or which goes into the territory east of St. Louis, including Chicago, and for export through New Orleans or Mobile, after deducting the amount of tonnage which we ship during the four months of the year when the river might be closed, and after making a deduction of about 20 per cent of the remaining tonnage which would probably have to move all rail for various reasons, some of it because quick shipment would be desired or because the shippers on first impression might object to the transportation—after making all those deductions we had for the past year 37,000 tons which was available for shipment via river if the river could give us the facilities to handle it. That is the figure of only one mill here in Kansas City. Now, our mill has the capacity of about 3,400 barrels a day. The milling capacity of Kansas City is pretty close to 12,000 barrels a day.

Congressman BORLAND. Your mill is about 3,500 and the milling capacity of Kansas City about 12,000?

Mr. HARDENBERGH. Approximately 12.000. I think it is 11,900.

Congressman BORLAND. You are a little more than one-fourth of the total milling capacity of Kansas City?

Mr. HARDENBERGH. Yes, sir.

Congressman BORLAND. And for your mill alone there is available for transportation by river 37.000 tons?

Mr. HARDENBERGH. Easily.

Congressman BORLAND. Easily 37,000 tons?

Mr. HARDENBERGH. Yes, sir.

Congressman BORLAND. Now, in addition to your flour you have a certain tonnage of by-products, haven't you?

Mr. HARDENBERGH. That includes the by-products. I have taken the total tonnage which would move into that territory—both flour and feed.

Congressman BORLAND. Now, this city, as a flour center, embraces the mills of Kansas, Oklahoma, Nebraska, and western Missouri, and there are a number of other flouring mills in this section aside from Kansas City that must base their rates on the Missouri River rates, aren't there?

Mr. HARDENBERGH. Well, practically all the mills of western Kansas—in Kansas and Oklahoma—which ship their products east of Kansas City have to base their rates on Kansas City. The rate breaks here at Kansas City for the movement east, and they all base on it.

Congressman BORLAND. Now, none of this business went to the boat line in 1914 or 1913?

Mr. HARDENBERGH. Not a pound of it.

Congressman BORLAND. And when it began to be developed that you could ship by the river, you found that the facilities of the boat line were not adequate to the amount of freight you could offer?

Mr. HARDENBERGH. Were not nearly adequate. As soon as we started to ship we had some shipments we had lined up to go and found that we were not quick enough. Topeka got in ahead of us. They were the first mill to follow us, and they shut us right out.

Congressman BORLAND. Any questions from the members of the board? This represents the milling situation, and that is the reason why I do not duplicate that testimony with that of other millers. The situation here is that equally of the milling business generally, and of course that is the great surplus product of the Western States.

(Witness excused.)

Congressman BORLAND. Now, Mr. Carlisle.

CHARLES D. CARLISLE, called as a witness, testified:

Congressman BORLAND. You are president of the Carlisle Commission Co.?

Mr. CARLISLE. Yes, sir.

Congressman BORLAND. You are a hay dealer?

Mr. CARLISLE. Yes, sir.

Congressman BORLAND. I think some one told me you were the largest hay dealer in the United States, and you have denied that; but at any rate, you are very extensive hay dealers?

Mr. CARLISLE. Yes, sir.

Congressman BORLAND. And Kansas City at present is the great hay market of the country?

Mr. CARLISLE. Yes, sir; largest in the world.

Congressman BORLAND. Greatest hay market in the world?

Mr. CARLISLE. Yes, sir.

Congressman BORLAND. What use have you been able to make of the river transportation of that commodity, hay?

Mr. CARLISLE. On several occasions I have been endeavoring to give the boat line business, but never could get in. There was more freight than they could take care of.

Congressman BORLAND. I will call your attention to page 109 of this brief. Now, you may continue your testimony, Mr. Carlisle. You have shipped by river?

Mr. CARLISLE. Yes. Your board are perhaps aware that Kansas City is located in the richest agricultural district of the country and produces more hay than any other section of the country, and another interesting fact is that of the increased number of silos. Secretary Mohler, of Kansas, in his last report, gave over 9,000 silos in Kansas. This, of course, makes more hay for commercial purposes. Kansas City last year handled 40,000 cars of hay, which is about a half million tons. I feel safe in saying that with an improved river and a dependable schedule we could offer at least 5,000 cars for the boat line, which is about 60,000 tons of freight. Hay is a commodity that can be loaded easily the same as sack stuff, with endless chains, and it can be also recompressed to a greater density. The commercial baling is about 130 cubic feet to the ton; but on a Philippine contract that I had three years ago I recompressed the hay to the density of 75 to 80 cubic feet to the ton, which is in conformity with Government requirements. This, to be recompressed, would be right valuable freight.

Congressman BORLAND. Mr. Carlisle, you had a Panama Canal contract?

Mr. CARLISLE. Yes; we are completing now the third contract.

Congressman BORLAND. The third contract to supply the Panama Canal with hay?

Mr. CARLISLE. Yes, sir.

Congressman BORLAND. Now, the condition down there is that they have a dry season some seven months in the year?

Mr. CARLISLE. Yes, sir.

Congressman BORLAND. That gives them nothing but their unnutritive wire grass, and the animals taken down there for construction work must be fed with hay from this country; and that is the condition down all along in these semi-tropical countries?

Mr. CARLISLE. Yes, sir.

Congressman BORLAND. That hay is the upland hay of Missouri and Kansas?

Mr. CARLISLE. Our present contract is alfalfa.

Congressman BORLAND. One contract that you had was filled with upland prairie hay—Kansas upland prairie hay—that is, prairie hay from Missouri, Kansas, and Colorado?

Mr. CARLISLE. Yes, sir.

Congressman BORLAND. And alfalfa?

Mr. CARLISLE. It was Kansas, Colorado, and Oklahoma.

Congressman BORLAND. Now, all those countries down there where large work animals are used must draw their supply of hay from the Missouri Valley, practically?

Mr. CARLISLE. Well, I will say that when the bids were opened in June, had California been offered sufficient boats, I would not have gotten the contract. Since the opening of the canal California is our main competitor.

Now, as to alfalfa, Kansas has an acreage of 1,359,000 acres, Colorado about 900,000 acres, and Nebraska 1,200,000 acres of alfalfa. It is increasing very fast, and the rate from Kansas City to New York is 50 cents a hundred. The

rate from San Francisco by way of canal is 50 cents a hundred. So that Colorado, Kansas, and Oklahoma, have a rate from 60 to 72½ cents as against 50 cents from California, or the rate which San Francisco has to all Atlantic coast ports up as far as Boston.

Congressman BORLAND. You are aware, of course, that the Government irrigation projects in the West usually begin with the growth of alfalfa? That is the principal crop to start their settlers off in business?

Mr. CARLISLE. Yes, sir.

Congressman BORLAND. And the Indian reservations are largely engaged in the raising of hay?

Mr. CARLISLE. Yes, sir.

Congressman BORLAND. That is a commodity that they have——

Mr. CARLISLE (interrupting). We draw from Montana and Wyoming. We draw from seven or eight different States and get a good deal from the Indian reservations up in Wyoming, Montana, and Idaho, and so on.

Congressman BORLAND. That is all, Mr. Carlisle.

(Witness excused.)

Congressman BORLAND. Mr. Fitch, I want to get your testimony in now.

H. A. FITCH, called as a witness, testified:

Congressman BORLAND. Mr. Fitch, you are manager of the Kansas City Structural Steel Co.?

Mr. FITCH. Yes, sir.

Congressman BORLAND. President, I should say.

Mr. FITCH. Yes, sir.

Congressman BORLAND. You make structural steel here at your plant in Kansas City?

Mr. FITCH. Yes, sir.

Congressman BORLAND. To what extent have you been permitted to use the boat line?

Mr. FITCH. We have been unable to use the boat line—practically none at all—three or four carloads, perhaps.

Congressman BORLAND. Three or four carloads you would call none at all?

Mr. FITCH. No.

Congressman BORLAND. Now, you have a pretty bulky commodity?

Mr. FITCH. Yes, sir.

Congressman BORLAND. What facilities are needed for you to use the boat line?

Mr. FITCH. The most of our products are in long lengths and the boat line has not been able to handle the long-length pieces up to the present time. I understand they will be able next year.

Congressman BORLAND. The equipment of the boat line during the present season has not been sufficient to handle your long-length stuff?

Mr. FITCH. That is correct.

Congressman BORLAND. And you understand they are going to provide equipment of that kind?

Mr. FITCH. They have provided the equipment, I understand.

Congressman BORLAND. So you will be able, then, to offer them freight and they will be able to accept it with their increased equipment?

Mr. FITCH. Yes, sir.

Congressman BORLAND. How much tonnage moves from your company?

Mr. FITCH. Our entire movement of tonnage is from the East here. We never move tonnage back East. It always comes from the East and all of our raw material comes from the East through Chicago or Pittsburgh, and it amounts to an average of about 20,000 tons a year. Now, only a portion of that can be shipped via the boat line because we ship on through rates, working in transit rates, and perhaps 60 or 75 per cent would have to be still shipped over the railroads in order that we could take advantage of the working in transit rate, and therefore we would not have but, oh, approximately from three to five thousand tons that we would ship by the boat line.

Mr. SANGSTER. Mr. Fitch, may I ask you in the way of a question—the milling in transit you refer to is the fabrication in transit of the steel?

Mr. FITCH. That is correct.

Mr. SANGSTER. And the rate adjustment is such now that you move it from the point of origin where the raw material is manufactured to Kansas City and fabricate it here and manufacture it and send it to destination at the through

rate from the point of origin to destination plus certain charges for the privilege of fabrication in transit, perhaps 1½ cents a 100 pounds?

Mr. FITCH. Yes.

Mr. SANGSTER. Now, I understand the boat line is prepared to enter into arrangements with the railways so that the same arrangement for fabrication here may be made, so that the same privilege and basis may prevail?

Mr. FITCH. Well, I don't know that.

Mr. SANGSTER. Well, if that should be the case, then that objection or disability will disappear?

Mr. FITCH. Yes, sir; and in view of that I might say that the big bulk of our tonnage would move that way.

Congressman BORLAND. If an arrangement could be made for the boat line to give a fabrication-in-transit rate?

Mr. FITCH. In connection with the railways?

Congressman BORLAND. Yes, sir.

Mr. FITCH. Yes, sir.

(Witness excused.)

Congressman BORLAND. I will now ask Mr. von Pagenhardt, the naval architect of the Missouri River Navigation Co., to take the stand.

I want to call the boat company's engineer, Mr. von Pagenhardt, who is a naval architect and can give us information upon some of the technical matters as to construction and operation of these boats. Mr. von Pagenhardt, will you come forward, please.

MAXIMILIAN VON PAGENHARDT, called as a witness, testified:

Congressman BORLAND. The board here are interested somewhat in the details of the construction of that boat, and I want to ask you first as to your experience and qualifications as a naval architect.

Mr. von PAGENHARDT. I am a graduate of the University of Berlin and have had practical experience in the shipyards of Germany and England, and I came over to this country in 1910. I have studied some in the shipyards on the Great Lakes, and came to St. Louis in the fall of 1910 and worked for Mr. Cavanaugh in connection with the barge line which he proposed to establish. This line materialized in some measure in the spring of 1911, and was discontinued in the fall of the same year. In the spring of 1912 I connected myself with the Kansas City boat line—the only boat line just at present—and am here ever since. [Laughter.]

We have kept a record ever since the beginning of navigation of 1913 of every trip that every boat has made at all times. We know exactly how many hours each boat has been delayed each trip, and for what reason, and we have determined the saving in time in each succeeding half year compared with the like time of the year before. These records have enabled us to know all the time where our losses have occurred. Charts of this kind which I have in my hand have been made for each boat and kept at all seasons. This represents the low-water season of 1914, for instance, of the steamer *A. M. Scott*, starting with July 1 and ending with December 11. It just so happened, due to very shallow water in the month of July—exceptionally shallow water—that we were held up by bar trouble—navigation trouble, it might be called. All the space that is white in here is running time; all that is blue is waiting for freight; and all that is orange is machinery trouble, such as boiler, propeller, or repairing trouble; and the brown at the top and bottom is the night when it is too dark to run and the boat is not running, but is lying up for night, and also for storm or rain.

Mr. MACKIE. Mr. von Pagenhardt, will you please explain the relation of the machinery trouble to sand-bar trouble?

Mr. von PAGENHARDT. Yes. It must be understood that this machinery trouble is a direct consequence of the bar trouble—navigation trouble—because our rudders are subjected to breakage in running over a sand bar, and the propellers are hitting lumps and snags and floating driftwood. It also happens that on this boat, which we bought—we did not build it—there are keel condensers, and they would be damaged, owing to the fact that we would run on sand bars, and that had to be repaired. So that these big losses of time, waiting for freight, these blue spots which you see here, are caused by the red spots in the two months prior to the blue spots, because, as we did not give any service, due to the sand-bar trouble, we did not get the freight four weeks to eight weeks later. Now, this other chart looks a great deal better—this is in

black and white—for the spring season of 1915, and shows 52 per cent efficiency. Fifty-two per cent, as you will observe, is white, while on this other chart only 22 per cent is white. You see here that many days we have run day and night—24 hours. Each column means a day and each twenty-fourth of a column means an hour, and the line running through this whole chart represents the stage of the water at Kansas City. That, of course, has always a relation to the running efficiency of our boats.

We have, as I say, succeeded in securing 52 per cent efficiency in this season in the towboat *A. M. Scott* and 43½ per cent efficiency in the towboat *Advance*. We do not expect ever to get more than 70 per cent, because that is the maximum of practical navigation, not only here but practically all over the world. Boats can not run 100 per cent. No boats do 70 per cent, with very few exceptions. Boats that have a record like the Great Lake boats, which have run, perhaps, more days out of the working year than any other boats, do not run 100 per cent. They only run a fraction of 100 per cent. Of course, a river boat does not run and can not run as much as a Great Lakes boat or ocean-going boat.

We have found that our product is to be measured not only in tonnage and not only in ton-mileage, but in ton-miles per hour. That is our revenue. We have to move so many tons so many miles in the shortest number of hours. If we moved, for instance, in 1913, in round numbers, almost 4,000,000 ton-miles—3,900,000 ton-miles in a certain number of hours—we have a ton-mile per hour capacity in 1913 of 300; in 1914, 420, or an increase of 40 per cent; and in 1915, up to the 1st of October, 1915, 1,075, or an increase of 156 per cent over 1914 and 258 per cent over 1913. That is our source of revenue, our article that we produce—the ton-mile per hour—and that is what we get paid for. It is on that basis that we have to build up our fleet, that we have to build up our towboat and our barges, on that same plan of ton-mile per hour.

Mr. MACKIE. Mr. Von Pagenhardt, before proceeding to the details of building, etc., will you please, for the benefit of the board, give us some comparison between the running time and running efficiency upon the upper and lower parts of the river; that is, what you would call the upper half of the river as compared with the lower half, where there is a regular channel. How do the boats run in the lower part of the river as compared with the upper part of the river out of each 24 hours?

Mr. VON PAGENHARDT. The charts would show that each trip which is made in the neighborhood this year of four to six days, that in the lower stretch of the river, up to Glasgow, we run usually not less than an average of 5 miles an hour, while in the upper stretch we run not more than 3 miles an hour, bringing the total to, we will say, 4 miles per hour. We run day and night, usually, in the lower stretch and run only once in a while day and night in the upper stretch of the river. However, so far we have not kept a record of it, due to the difficulties connected with it; but we have intended all the time to keep a record of the time thus saved by running over stretches of improved river. I am not able to give such exact information as yet.

The ton-mile per hour capacity influences the size of our barge and towboat. For instance, if our towboat, the *A. M. Scott*, can move a barge containing 350 tons of freight at a speed of 8 miles per hour through the water, which is a speed of 4 miles per hour against the current, or perhaps 5 miles at some of the crossings, which would represent the mean speed of the boat, we would have the ton-mile capacity of 3,000 ton-miles. That is the capacity of our towboat, the *A. M. Scott*. No matter what we do to her, whether we add additional barges or carry less tonnage at a greater speed, we always have 3,000. At least, that is our normal maximum. It might be exceeded at some time, but the rule is the tonnage times the speed is a constant. So that we have a capacity for the towboat *A. M. Scott* or the *Advance* of 3,000 ton-miles at a stage of the river of 4 feet. Provided we had 6 feet minimum, that same barge that can load 350 tons could load 600 tons, and the capacity of the boat would automatoically increase to 5,000. Provided we could push a thousand-ton barge, the capacity of the boat would not increase any more. Whether we loaded 1,000 or 1,500 ton barges, our capacity for that boat would be limited to 5,000, and we would have to buy another boat or build one that had a greater ton-mile capacity per hour.

But our barge design is influenced by this: The value of a barge to us is the amount of tonnage we can carry on a certain draft, moving at a certain speed, divided by the resistance that the barge offers; and we know that a 600-ton barge loaded with 335 tons, as we move them now, drawing 4 feet, has

a resistance of 10,000 pounds moving with a speed of 8 miles per hour through the water. Its value to us is 335 tons divided by 10,000 pound, or 5 tons, which equals 67. If that same barge is loaded to its capacity of 600 tons, with the resistance going to 12,000 pounds, its value to us would be increased to 100. If we could select a thousand-ton barge with the same fair dimensions and lines its value would rise to 1,000 tons divided by 7½, or 133. Or, if we could select a 1,250-ton barge such as our *Endeavor*, the value to us would be still more than that, or 1,250 tons divided by 8½, or 147. We know, then, that in moving a certain unit through the water we need as pushing power the amount of resistance offered by the barge moving at a certain speed through the water plus the resistance of the towboat itself moving at a certain speed through the water, and that is then translated into effective or indicated horsepower. Now, we knew, because we had the *A. M. Scott* before we bought the barges, that we had 15,000 pounds pushing power, and therefore we could only make her push barges of ten to eleven or twelve thousand pounds of resistance at the outside to get the merchandise speed which we want to attain, 4 miles against this current. And it is along that line that we have proceeded.

We will naturally reach a limit; in fact, we have reached a limit with our present equipment. We know we can not do any more and we know what it represents to us at the present time. We know the income it represents to us, which is a certain figure and which can not be increased with the present equipment, and that all that we can do is to increase our mileage provided we get full tonnage capacity.

In order to determine this push and this relation of push to horsepower, we have gone into extended investigations. We have determined the push of our barges by a number of tests, and we have found out by gathering data from other countries, and by information which we have gathered ourselves and from tests made by ourselves, we have gathered data regarding the thrust per unit of horsepower of tunnel boats as well as stern-wheel boats; and we perhaps better than anybody else in this country can tell how many pounds of work can be performed by a horsepower in either kind of vessel. Now, that is not a certain figure; it is represented by a line, which we call a curve.

Through the permission and by the authorization of Maj. Smith, secretary of the Mississippi River Commission, we received permission to make tests on the 1st of October, lasting from the 6th to the 16th of October, this month, to test the *Inspector*, the new tunnel towboat, and we have established the peculiar fact that this little *Inspector* indicated or generated more thrust on a dynamometer than the big *Winoka*. Of course that don't show that the *Inspector* is at all times more powerful than the *Winoka;* but it gave us more thrusts than the *Winoka*. It just so happened, however, that the *Winoka* could generate only 575 horespower, whereas it is supposed to generate 850 horsepower; and it therefore only registered on the thrust gauge 16,350 pounds, while the little *Inspector*, boosted to a thousand horsepower, registered 18,000 pounds. We also made the same curves for speed, but what we are interested in, particularly in river navigation, is the thrust. It is comparatively a new thing.

Col. BLACK. What do you say the horsepower of the *Inspector* was?

Mr. VON PAGENHARDT. We boosted her that particular time, this particular test, to a thousand indicated horsepower—just did it, just made her do it.

Col. BLACK. What boats were these the *Inspector* was tested with?

Mr. VON PAGENHARDT. Well, there are five of those boats, known as the *Nokomis*, the *Winoka*, and other Indian names.

Col. BLACK. Whom do they belong to?

Mr. VON PAGENHARDT. They are Mississippi River Commission Government boats, built or designed by Mr. Middleton. It does not say anything against the *Winoka*. It just so happens that the boiler power was cut down from 187 to 155; they are 17 years old. And while they can turn up their wheel in running in the river, and while they could have turned their wheel 10 years ago even standing still pushing against a tied object, they couldn't do it now with the cut-down power. In other words, the *Inspector* could have, as a joke, pushed that *Winoka* downstream and, possibly, even upstream. Of course I am not willing to state that officially.

Our comparison between the tunnel boat and the stern-wheel boat is based on three years' experience with the two boats in actual service. As a matter of fact, all paddle boats generate more pounds thrust per indicated horsepower than tunnel boats. It is a more efficient application of that particular thing, namely, the reaction of the water. While a tunnel boat generates its original

power cheaper than the stern-wheel boats, even comparing one of the high-class stern-wheel boats with tandem compound condensing engines with a high-class tunnel boat, triple expansion condensing, I do not think that the stern-wheel boat can generate its power for less than 20 pounds of steam per indicated horsepower. Our *Advance* does it for 23, and we might possibly reduce it to 22, while the tunnel boat, the *A. M. Scott*, about the same as the *Inspector*, generates her power for 15.8 pounds of steam per indicated horsepower. It is, therefore, cheaper, or just as cheap, to generate 650 horsepower in tunnel boats as to generate 500 horsepower in a stern-wheel boat, and there is the whole reason of the equality of our two boats in actual service. As a matter of fact, due to particular conditions existing this year, our tunnel boat, the *A. M. Scott*, has consumed more—in fact, $10 worth of fuel per day more—of oil than the *Advance;* but it can be explained by trouble with our inherited keel condenser. That, of course, gave us a bad condition in our boilers and condenser and no vacuum, and therefore a higher fuel consumption.

We know that if we compare the two boats we have to take into account the smallness of the one compared with the other boat. Our boats are the smallest boats in the country compared with the horespower delivered. The tunnel boat, the *A. M. Scott*, generating 750 horsepower on a displacement of 175 tons generates 2.7 horsepower per ton of displacement, and the *Advance*, with her 600 indicated horsepower, moving on a 250-ton displacement, or about 2.4 horsepower per ton. There is no other boat in the country—that is, of large boats above 500 horsepower—that will do that.

The efficiency of our boats has been increased markedly by the introduction of fuel oil, which we burn under our furnaces. We have burned coal first on the *A. M. Scott* and we have burned oil on the *Chester* in the first years and then we turned to fuel oil and studied the subject and succeeded by an installation which has proved a perfect atomizer, permitting our oil furnace to give a high efficiency—an evaporation of 16½ pounds of water per pound of oil, or a boiler efficiency of 83 per cent. Now, we published those data, or part of them, and gave them to Mr. Ward, of the Ward Engineering Works, who wanted to build some boilers for the Navy, and the Navy was interested in our test to such an extent that they sent an inspector to St. Louis who had opportunity and who did inform himself and satisfy himself as much as one can by looking at it of the correctness of our claim. It is as good a result as has been accomplished anywhere in the country—16½ pounds of steam from 1 pound of fuel oil.

The additional advantage, of course, of fuel oil is in the scientific management of the boiler room. It has taken it away from the hands of firemen and put it really in the hands of the designer. It is automatic; and any efficiency that is designed can be maintained—or almost so—with a good chief engineer in charge of the boat. Therefore we can keep up our speed that we lay out for the boat and keep up the ton-miles per hour to the capacity of the boat.

I don't know whether the board is interested in the comparative data of the cost of running the *A. M. Scott* per day and the *Advance*—the difference between the two per day.

Chairman BLACK. We would like to hear it very much, but I fear our time will not permit of it.

Mr. MACKIE. Just before you leave the stand—you had some experience with the Mississippi River, and from an engineering standpoint and the standpoint of a designer you have some opinion as to why there is not so very much commerce on the river, especially with reference to the boats not being designed for the purpose for which they are intended. Will you enlighten the board on that, please?

Mr. VON PAGENHARDT. The design of the boats is one of the most important parts of making up or building up river navigation. It is not the most important part, because I can realize very well that with an unlimited amount of money and perfect terminal conditions and freight conditions, almost anything will do the work until that organization has perfected itself; but eventually even that concern would have to use boats of lines correctly designed, and would have to use a plan which is correct.

We have come, of course, to the conclusion that the only perfect plan for us is that of towboat and barges, and we have laid down our reasons in various reports which we have made to other cities, such as St. Louis, St. Paul, and others; and we know exactly how we can determine, by following certain rules which are laid down, the ton-mile per hour; and we can lay down the exact dimensions and the proper lines and the sizes and number of those barges, and we know that to make a success in towboating it is not so important

whether one or the other type of boat is used, provided either type is designed rightly and correctly in accordance with its true scientific basis and principle. That means the ability to attain the maximum amount of thrust per indicated horsepower.

Mr. MACKIE. I am afraid you did not quite catch the question. You and I have traveled all over the inland waters seeking information. I would like to ask and have you tell the board whether you have seen on the inland waters any boats and barges, except our own, of course, properly designed for the purposes for which they were to be used.

Mr. VON PAGENHARDT. With the exception of those boats like the *Kate Adams*, which is a comparatively good packet boat and of considerable speed, I do not believe I know of any boat that is designed correctly; and even that, of course, is not designed on a scientific basis. It just follows old rules of experience and just happens to be right. As the owner himself said, the old *Kate Adams* was really a little faster than this *Kate Adams*. It just happened so.

Col. NEWCOMER. What is your criticism of the self-propelled barge?

Mr. VON PAGENHARDT. I believe firmly in the future of the self-propelled barge under certain conditions. I believe—in fact, I know—that slack-water navigation favors the self-propelled barge; and I know also that even stretches of the river, possibly even long stretches of river, can be successfully navigated, not so much now by a self-propelled barge, but what is known as a motor freight barge. There are four types or systems of river navigation—the packet boat, the self-propelled barge, the motor freight barge, and the towboat and barge system. The self-propelled barge is successful in slack-water navigation and possibly in another connection, working with towboat and barges. The motor freight barge, which is a fast self-propelled barge, is successful in rivers where a particularly fast service is required to get high-class freight quickly to the customer, such as pianos, and so on, running in between the large tows. The packet boat is no good for anything, and the towboat and barge system is the only method of moving large tonnage on a profitable basis.

Col. NEWCOMER. Can you give your reasons for limiting the successful application of the self-propelled barge to slack water?

Mr. VON PAGENHARDT. The self-propelled barge, in comparison with the towboat and barge system?

Col. NEWCOMER. Yes.

Mr. VON PAGENHARDT. That might be answered best by stating the advantages of the towboat and barge system—answering it in the negative. The advantages of the towboat system for any service are, first, the largest carrying capacity per dollar of investment. I can prove that with the other boat that is not so, I think. Further advantages are, it is the cheapest transporting medium per ton of freight in throught-freight movements; the most convenient and cheapest system in loading and unloading; the advantage of independent terminals for independent barges, as we have heard spoken of with regard to this river, as, for instance, laying barges all down along the river; it favors direct loading and unloading over shipside, whenever that comes into consideration; it has the largest flexibility of all systems, and the lowest depreciation and insurance account; it favors the interchange of freight in barge units; it is the most reliable of all means of transportation; it has the lowest overhead expense per ton of freight, where the maximum tonnage is moved. The best system, from the financial standpoint, therefore, is the towboat and barge system.

Col. NEWCOMER. Would that reasoning also apply to any case where you had a given commodity, say a large quantity of coal, to be moved between fixed points, as from the mine to somewhere?

Mr. VON PAGENHARDT. Yes; I think so, Colonel; because you can move more coal with towboat and barge than you can by using a self-propelled barge. You can move on this river or we will take it on the Mississippi River, you can move for each horsepower you put in the boat, 4 tons, or for a thousand horsepower, 4,000 tons in barge units. That tonnage might be in two or three or four barges. That has nothing to do with it. But you could not think of moving with a thousand horsepower at the same speed, in a river with the same current, the same tonnage in self-propelled barges, not for reason of power but of size. You could not build the barge big enough. Then there is a further consideration of importance, particularly in river navigation, which goes against the self-propelled barge system, and that is that a self-propelled barge can go aground. Anything will go aground in river navigation once in a while, and the self-propelled barge—which takes advantage of the rule that a large hull is more

easily pushed through the water, with less horsepower, than many small hulls—is helpless as soon as she goes aground. For instance, if she is a 450-horsepower barge, she has only 450 horsepower available to pull off a sand bar the weight of 3 500 tons; while if this 3,500 tons were in several barges and pushed by a 1,000-horsepower towboat, that 1,000 horsepower could be applied to each unit and pull that barge off that bar in no time.

Col. NEWCOMER. I don't think you have given yet the influence of slack water on the problem.

Mr. VON PAGENHARDT. Now, this slack water—that always means narrowness of channel and therefore the impossibility of moving wide fleets.

Col. NEWCOMER. Our slack-water rivers do not have narrow channels in all cases.

Mr. VON PAGENHARDT. For instance, the Ohio?

Col. NEWCOMER. Yes; and for instance in all our canalized rivers. Take the Monongahela.

Mr. VON PAGENHARDT. Well, I would say the Monongahela was narrow, and therefore a self-propelled barge——

Col. NEWCOMER (interrupting). It is five or six hundred feet wide.

Mr. VON PAGENHARDT. From all experience it can not be compared with our Mississippi or Ohio. And then, furthermore, there are particular conditions. If you refer to the self-propelled barge system of New Orleans and Alabama, they have to go over the sound, and all that condition is in favor of the self-propelled barge—the individual unit. Now, I would not call the Ohio strictly slack water. I do not believe it would be correct to call the Ohio River slack-water navigation. It is, after all, only at best a canalized river.

Col. NEWCOMER. You take these rivers where they have been canalized——

Mr. VON PAGENHARDT. I would still consider the towboat movement as the most favorable of all movements. For instance, the upper Monongahela, to which you refer, with its towboat movement of coal, carried 3,000,000 tons last year.

Col. NEWCOMER. More than that. It moved 10,000,000.

Mr. VON PAGENHARDT. The cost has been reduced. I do not think the self-propelled barge system could do a good deal better than the towboat and barge system; but, however, it is difficult to say right offhand. I have not studied the conditions of the Monongahela River to such an extent that I would like to state one way or the other. [Applause.]

(Witness excused.)

Congressman BORLAND. Mr. President, inasmuch as a great many of these shippers are not able to be here, and much of their testimony will be in duplication anyway of what you have already heard, I am going to ask the consent of the board to insert in the record additional letters from these shippers, giving, the tonnage they gave the boat line in 1913, 1914, and 1915, and the amount of tonnage they are able to offer as the service improves.

Chairman BLACK. We will be very glad to receive it.

Congressman BORLAND. I want to show by that, and I simply mention it here without cumulating the testimony, that I am confident the aggregate will more than justify the highest demands made in the report of the district officer, which demands we are not willing to concede are just, on an unimproved river, but we think that the present tonnage offered, without regard to prospective tonnage, will practically answer those demands.

I want to call attention to this fact in passing, that here is a navigation company which has been built up out of the promise, practically, of an improved river. It has been confronted with a great many incidental problems, and as the board has shown intense interest in some of these problems it will readily see that it has solved a great many of them, and whatever improvement of transportation or navigation it has brought about it has not kept to itself, but it has laid that information fully before other navigation or transportation companies for their use in order to build up the general transportation of the country.

In other words, the continued existence and success of this Kansas City Missouri River Navigation Co. in the navigation of the Missouri River is much more important than a mere local proposition. If the Missouri River, with all this solution of these problems and the navigation with modern conditions, cannot justify itself as a carrier of freight there is not an inland waterway in the country which can justify itself.

Col. NEWCOMER. Have you made any summary of the amount of tonnage?

Congressman BORLAND. I have not, Colonel, because the statements are still coming in; I hope to do that during the day. They are greater than I hoped

for when I called for the statements, and they are still coming in, so that I have not yet made a summary of them, but it is quite large.

Col. NEWCOMER. I think it would be valuable to this board if Mr. Dickey would have his company submit to the board a statement of its experience in operation and of the information it has given to these other cities who have been considering the establishment of boat lines.

Mr. DICKEY. I would be very glad to do that, Mr. President and gentlemen of the board. We have systematized our work and gotten information, and we have collated it and put it in shape, and we have passed it out to up and down stream cities where they have applied to us for information, because we are in the peculiar position of wanting to multiply the river traffic. We are not in the position of any other line in this entire country that wants to get the business and hold it and get higher rates, and who are trying to put other people out of business. We have been doing the very opposite, and we will file our statistical reports on both branches of the business.

Congressman BORLAND. I was just handed a memorandum that shows the amount of freight under contract to the boat line company, the freight already pledged to it, that it can absolutely command, and which is in addition to what has already been testified to, not prospective freight that we could move on an improved river, but the freight pledged to the boat line as soon as it is equipped to handle it. Eastbound, 123,040 tons; westbound, 165,023 tons; with the addition during the last two months of 59,000 tons, making a total of 347,063 tons which the boat line has under contract as soon as it is able to move it, and that does not begin to compare with the business laid before you this morning.

Mr. Sangster, will you testify now? Senator Reed wishes to examine Mr. Sangster.

Chairman BLACK. The question of getting through comes up. It is now nearly 1 o'clock, and the board must have some lunch, and we must stop at 4 o'clock.

Senator REED. Let me make this suggestion, please: The board has heard considerable testimony and I would think that the board might give the Commercial Club and others interested a certain number of days in which to file written statements of merchandise, or a statement compiling the amounts of merchandise with the board.

Chairman BLACK. How much time do you want?

Congressman BORLAND. I think 10 days will be sufficient.

Judge BLAND. Could we have 20 days to do that?

Chairman BLACK. Our board meets twice a month; the next meeting will be next Tuesday, and the meeting following that will be two weeks afterwards. In November we will have to go to Little Rock, and that will take us about half a month, so we are very glad indeed to get it as soon as we can. I only say this to show that the longer you take, the longer will be postponed any action that we can take.

Senator REED. We desire to give it to you as promptly as possible, because it is a matter that will come before Congress properly at the next session, and it is important that the information should reach the Chief of Engineers in time so that it can be incorporated in his report to Congress and his recommendation of appropriation. Now, we at one time had a resurvey of this Missouri River, and the report was not made in time to get into the Chief of Engineer's recommendation, and we had interminable difficulty in getting a special report in so that it could get before the committees of Congress. Therefore, I say to you, gentlemen, that I think you had better take the shortest possible time to file this information.

Congressman BORLAND. I do not think it will take 10 days.

Senator REED. Besides, if we had a year, we could not begin to present to the board the possibilities of this situation. All we can do is to present samples, and leave to human imagination and general inference the rest of it. With that statement, we can shorten the hearing this afternoon, and I state to the board frankly that I want to submit to the board some remarks upon this situation before it leaves, and I will make it as short as I can.

Chairman BLACK. If we take a recess now until 2 o'clock, that will give us two hours in the afternoon; will that be sufficient?

Congressman BORLAND. I think so. We want to put on a very important witness, Mr. R. D. Sangster, transportation commissioner of the commercial club, and his testimony will take in a considerable scope of the commercial value of the Missouri River. I think that can all be covered, together with a summing up, in two hours.

Mr. KENNEDY. Might I ask, on behalf of the Commercial Club of Omaha, the privilege of submitting to the board a detailed statement, in connection with its showing?

Chairman BLACK. We shall be very glad to get it, Mr. Kennedy.

We will now take a recess until 2 o'clock.

ASSEMBLY ROOM, COMMERCIAL CLUB,
Kansas City, Mo., October 20, 1915—2 p. m.

Present as before.

Chairman BLACK. The hearing will please come to order.

Senator REED. Mr. Sangster. I wish to say to the board that we have held Mr. Sangster until this time, expecting to have a very full review by him of this whole question, but in view of the fact that the right has been granted to file papers with the board, we will abbreviate as much as we can.

R. D. SANGSTER, called as a witness, testified as follows:

Senator REED. Please give your name.

Mr. SANGSTER. R. D. Sangster.

Senator REED. What is your occupation, Mr. Sangster?

Mr. SANGSTER. Transportation commissioner of the Commercial Club of Kansas City, Mo.

Senator REED. How long have you held that position?

Mr. SANGSTER. The rise of a year.

Senator REED. What was your position before that?

Mr. SANGSTER. For the past 17 years I have been connected—engaged in traffic matters exclusively and continuously, the first 11 or 10½ years of which was in the railroad service with the Illinois Central, the Rock Island, and Frisco lines, and the latter part of which has been on the shippers' side, in this southwestern and western country.

Senator REED. Were you engaged as a traffic man by the railroads, representing them?

Mr. SANGSTER. Yes; in the freight traffic department exclusively.

Senator REED. I take it, then, Mr. Sangster, that for many years you have studied the whole question of transportation, rates, and so forth?

Mr. SANGSTER. I have studied the traffic matters of this territory.

Senator REED. Mr. Sangster, what have you to say to the board with reference to the boat-line situation, and its effect upon rates? And you may make your answer as full and complete as you desire.

Mr. SANGSTER. I should like to say that my testimony will be largely in the form of references to the exhibits numbered 1 to 48 which are incorporated in the brief. Those exhibits were compiled under my direction at the instance of the waterways committee of the Kansas City Commercial Club, in general charge of this case.

Senator REED. Are you prepared to say now that those tables, that are there set forth, are correct?

Mr. SANGSTER. Yes, sir; to the best of my knowledge and belief. The committee in question is composed of Messrs. W. T. Bland, chairman, Walter S. Dickey, F. G. Crowell, C. D. Parker, Leon Smith, O. V. Wilson, and R. L. Redpath, a majority of whom are past presidents of the organization and peculiarly familiar with local commercial conditions in this territory and in this city and its environs.

I shall attempt to demonstrate that the traffic and transportation conditions and the manner of the rate adjustment in the territory west of the Mississippi peculiarly enhances the value of the Missouri River as an agency of transportation, and that it is one of the most vital inland water courses with which this board may deal; this with due regard not only to local traffic immediately tributary to the river, but to the commerce of the great section of producing and consuming territory in this country.

Treating the river from a tonnage standpoint pure and simple, the Missouri River and its recent record does not appear to be a mean one, nor to warrant a discontinuance of the existing improvement project. The tonnage being handled is increasing, as you have been told, in its grade as to the class. A comparison of the rapid rise in Missouri River commerce with the history of water-borne commerce between the Atlantic and Pacific coasts is illustrative of the point.

At page 384 of the Interstate Commerce Commission's volume 15 of reports, in dealing with the city of Spokane (Wash.) case, decided February 9, 1909, a very complete history of the coast-to-coast water service and the rail service across the country of the transcontinental lines is given, and in connection with subsequent cases under the same docket number forms with them a situation that is more comparable with what the Missouri River is and can be made to be as a commerce carrier. At page 384 of that report this language appears, dealing now with 1909:

"For many years before the construction of any transcontinental line of railway the only practicable means of transporting freight in considerable quantities from the Atlantic to the Pacific coast was by water, and after the railway became available this same method of transportation continued to be used. In the early days of the development of the Pacific coast passengers and freight were taken by water to Colon, carried by stage across the Isthmus of Panama, and again shipped by water to San Francisco or other points upon the coast. Subsequently the Panama Railroad took the place of the stage and this route to-day is in active operation. It is well understood that for the purpose of preventing competition by this line the transcontinental railroads for several years purchased a sufficient amount of the entire space available by the steamships plying in connection with the Panama Railroad to control the rates. To-day this line maintains rates somewhat below the all-rail rates and handles approximately 40,000 tons of traffic annually."

In the year 1906 the American-Hawaiian Steamship Co., via the Straits of Magellan, handled a tonnage from New York to the Pacific coast of about 115,000 tons.

Beginning early in the year 1907, the American-Hawaiian Steamship Co. inaugurated a new route, known as the Tehuantepec route, consisting of a ship carriage from New York to Coatzacoalcos, Mexico, a rail carriage from thence across Mexico, 193 miles via the Tehuantepec National Railroad to Salina Cruz, and thence by vessel to destination. The time by this route is 25 days from New York to San Francisco, 35 days to Portland, and 40 days to Seattle.

When the testimony in this case was taken this route had only just been opened for business, but its traffic manager testified that he expected to carry to the full capacity of his vessels with ease, and that his capacity would be at the outset 250,000 tons per annum.

In the foregoing paragraphs of this report it was shown that the original service was from 135 to 200 days by those routes.

Now, coming down to date, the Panama Canal, as disclosed by the commission's findings, or rather the testimony of all-rail carriers recently placed before the Interstate Commerce Commission in a hearing dealing with a complete supplementary list of commodities as to which the rail carriers applied for authority to reduce the terminal coast cities' rates from the East without reducing the rates to intermountain and intermediate territory, the carriers showed the tonnage by the Panama Canal route from September 27, 1914, to September 5, 1915, to be 960,057 tons.

All this emphasizes the importance of the testimony of the shippers and commercial interests before you that the primary and controlling elements of water transportation include the volume of tonnage available, and expeditious and dependable service, the character of channel, the type and capacity of craft and adequacy of terminal facilities, and the relation of routes of transportation by the water carriers to the established course of traffic, and its ability to interchange traffic with connections, rail and water.

I wish to point out briefly the results of the various exhibits above referred to. Nos. 1 to 14, inclusive, deal with the recent growth of Missouri River States in population, value of farm crops, value of farm property, production of principal grains, value of manufactured products, and production of minerals. This is found at page 145 of the brief. This as a basis for enabling the board to intelligently reckon the prospective increase in traffic in future, based on past performance and upon the growth of production in the past few years in this territory and of its commerce.

Exhibit 1 deals with population and shows that the Missouri River States, for the purposes of this case designated as Missouri, Kansas, Nebraska, Iowa, South Dakota, North Dakota, Montana, and Oklahoma, which are, with the exception of Oklahoma, the States included in the former reports to this board and upon which recommendations have been made. The population of those States in the year 1910 was an increase of 44.5 per cent for the previous decade. And for

the Ohio River States, which have been designated as Illinois, Indiana, Ohio, Pennsylvania, West Virginia, Kentucky, and Tennessee, the population in 1910 showed an increase of only 36.3 per cent for the same period. Those Ohio River States have been given for the obvious purpose of drawing, in a small measure, a parallel between the Missouri River and the territory which it as a thoroughgoing, completed inland-waterway carrier will serve, and the territory served by the Ohio, upon which the Govenment has been lavish in making expenditures.

The Government census of population of Kansas City, Mo., and Kansas City, Kans., appears on the bottom of page 145, and shows that for the decade ending in 1910 the increase was 53.7 per cent. The estimate of July 1, 1914, of the census is not given here, but the figures are, Kansas City, Mo., 281,911; Kansas City, Kans., 94,271; or an increase for four years of 13.7 per cent.

Exhibit No. 2 deals with the value of farm crops and shows that the Missouri River States in 1909 had an increase of 109.5 per cent, and the Ohio River States an increase of 59.9 per cent.

Col. ABBOT. That is given in dollars?

Mr. SANGSTER. Yes; in dollars, the value of all farm crops.

Exhibit No. 3 shows the value of all farm property in the Missouri River and the Ohio River States. In the Missouri River States there was an increase in 1910, over a period from 1890, of 289.14 per cent. The percentage of increase for the whole United States for the same period was 154.9 per cent. The increase in the 1910 value of farm property in the Ohio River States from 1890 was 91.3 per cent, and the increase of the total production for the entire country during the same period was 154.9 per cent.

Now, with respect to the per cent of the entire country's value of farm property, it is seen that the Missouri River States have increased from 21.29 per cent in 1890 to 32.56 per cent in 1910, while the percentage of the Ohio River States' production as compared with the entire United States has dropped from 34.36 per cent in 1890 to 25.79 per cent in 1910.

Exhibit No. 4 deals with the wheat and corn production of the eight Missouri River States by years, from 1907 to 1914, inclusive. Of the entire wheat crop of the United States for these eight years, 46.7 per cent was grown in the Missouri River States, and of the entire corn crop 37.28 per cent.

The principal grains for the year 1914, as produced in the Missouri River States, is shown by Exhibit No. 5. Your attention is directed to the fact that these States produce 54.2 per cent of the entire wheat crop of the country; 38.8 per cent of the entire corn crop of the country; 41.8 per cent of the entire oats crop of the country; 35 per cent of the entire barley crop of the country; 20.9 per cent of the entire hay crop of the country; and 20.83 per cent of the entire wool crop or production, I should say.

Col. NEWCOMER. Do you think these figures are all significant as bearing on the improvement of the Missouri River from Kansas City to its mouth?

Mr. SANGSTER. Yes; we think these figures and the rate of gain which they reflect are a safe criterion for this board to use in estimating what the gain in commerce will be upon the Missouri River, which leads directly from the rate-basing point and the center of traffic in this territory, in its movement to the eastern markets.

Col. NEWCOMER. These include the States of Montana and North and South Dakota, which are quite a distance from the river?

Mr. SANGSTER. Quite a distance, it is true. We have in Kansas City the second most important grain market in the United States. We have the biggest hay market in the United States. We do not stop at the boundary lines of Kansas or Nebraska, but we go into North and South Dakota for grain in substantial volume and into Colorado for hay.

Col. NEWCOMER. And that is shipped down here, is it?

Mr. SANGSTER. Yes; we draw to this market and commercialize and merchandise this hay and grain and forward it to destination. More specific detail will appear in subsequent exhibits as to tonnage.

Senator REED. Let me get that in a word; is it not true that Kansas City is the farthest west distributing point of importance and that it dominates all other points until you get to the Rocky Mountains?

Mr. SANGSTER. Yes; and it is the greatest clearing house, for the products of the States enumerated, west of Chicago.

Senator REED. Now ,Mr. Sangster, without interrupting you, I wish you would make this part of your observation just as short as you can, because the time is flying very rapidly. The board will undoubtedly examine these tables, and

I think they would be more interested in your views and generalization than in the details.

Mr. SANGSTER. With that in mind I will pass on to the next set of tables which deals with the recent gain of Missouri River cities in grain and products, and in hay shipments, commercial developments, industrial development, live-stock transactions, and the value of manufactured products which are covered by Exhibits 15 to 24, inclusive, which are correlative of the foregoing exhibits and serve to further illustrate what may be anticipated in the way of increasing commerce.

Coming, now, to the section opposite page 164 of the brief, it embraces Exhibits No. 25 to 36, and shows the recent gain in railroad mileage in Missouri River States; the railroad freight tonnage to, from, and through Missouri River cities; railroad freight revenue to, from, and through Missouri River cities, the mileage operated, density of tonnage, tons per train-mile, etc., representing the condition on western trunk line railroads. We have taken the actual east-bound traffic of these railroads for the year 1914, which lead east from Kansas City—through Kansas City from Kansas and southern Nebraska, and have shown what that tonnage is as divided between the classified commodities.

At this point I might say that at paragraph 5 of our protest, and Exhibit A appended thereto, it should be corrected to read that the figures there given include the traffic to from and through Kansas City and southern Nebraska and the State of Kansas.

Senator REED. What are the totals now?

Mr. SANGSTER. The totals are shown—well, we will refer to the percentage table shown in the right-hand margin of Exhibit No. 26, which reflects that substantially 68 per cent of the entire eastbound tonnage is made up of grain and grain products; and to the further percentage totals shown there, which shows that the traffic moving from Kansas City, from and via Kansas City, is 62.03 per cent of the whole traffic, both from and via all of the Missouri River cities from Omaha to Kansas City, inclusive.

The first section of this table, Exhibit No. 26, gives the traffic from and via Kansas City; the second table from and via St. Joseph, Atchison, and Leavenworth, and other cities grouped with Kansas City for rate purposes; and the third section gives the traffic moving from and via Omaha, South Omaha, and Council Bluffs. And the percentage of grain and grain products as shown in this table, in eastbound movement, may be taken in connection with the latter statement which is given of the actual tonnage upon the Great Lakes for the same year, to show to what extent that same character of commerce goes to make up the total tonnage of those water carriers.

In Exhibit No. 26 is a computation of my own, upon which I have extended arbitrarily the westbound tonnage and revenue and eastbound revenue of these same railroads for the year 1914, based upon the actual eastbound movement of tonnage and built up upon the tonnage of 1906 of the same character and in the same directions.

I call attention to the fact that from Kansas City in the year 1914, eastbound, the entire tonnage of 2,530,715 tons was 95.42 per cent of the entire tonnage to, from, and through Kansas City east and west in the year 1906, appearing just above and stated as 2,055,441 tons.

Senator REED. Are you at this point giving the board the total tonnage passing through Kansas City, both east and west?

Mr. SANGSTER. The 1908 report of Maj. Schulz, according to a letter from Mr. Jones, then president of the Kansas City Missouri River Improvement Co., I think, quotes the figures given by the then transportation commissioner of this club, Mr. H. G. Wilson, and the tonnage there stated is 2,562,318 to, from, and via Kansas City. That can be taken in its relation to the actual figures before you of east and westbound tonnage for the year 1906 by the same railroads of 3,759,819 tons.

The figures which Mr. Wilson then gave were taken from these reports of the railroads, and I may say that the authority for those figures appears in exhibits filed in the Burnham-Hanna-Munger case before the Interstate Commerce Commission, which went to the Supreme Court, and Mr. Wilson at that time computed that the traffic to and from the Southwest, including New Mexico, Oklahoma, Texas, and from Colorado, and beyond, would double the traffic moving through Kansas City, which would make the total tonnage approximately 5,000,000 tons. Using the same basis of estimating to-day the total tonnage through Kansas City to the same territory would be 9,258,148 tons; and bear in mind that is only through Kansas City.

The second section of this arbitrary extension of Exhibit No. 26 may be referred to in some detail. That takes 20 per cent of the 1914 actual Kansas City tonnage eastbound, and compiled for the West on the 1906 figures, as the traffic which it is estimated conservatively would move by the boat line upon an improved river and shows that the eastbound tonnage, the estimated tonnage in 1914 via the river, would be 506,143 tons; westbound, 587,672 tons; making a total of 1,087,815 tons. The revenue upon that traffic would be a total of $284,485 for the rail lines; and for the boat line, upon the basis of 80 per cent, would be approximately $237,587. The tonnage for the year 1922, projected upon the figures shown by the record for the past eight years, would be, for the boat line, 1,903,676 tons, on which the revenue would be $398,278.

Bear in mind all the while that these are figures dealing solely and alone with the traffic through Kansas City, to and from the southern Nebraska territory and the State of Kansas. If that be plussed by 100 per cent and made to embrace the traffic from the Southwest and Colorado and beyond, the boat-line tonnage would be 3,807,352, and the revenue would be $796,556. This is a direct saving of 20 per cent of the rail rate and is only on the tonnage handled by the river line, and does not contemplate any reduction of the rates in the traffic moving by rail; and this further assumes that but 20 per cent of the tonnage will go via the boat line; but the testimony of the Kansas City witnesses here clearly points to the conclusion that the tonnage will go, as far as Kansas City shippers may route it and deliver it to the boat line, in greater volume than even 20 per cent.

Right in this connection, the lawful power of the shipper to route his freight has now been established by the amendment of section 15 of the act to regulate commerce, and together with the amendment of section 6 of the act, which has been referred to here in a general way, of August 24, 1912, by which the commission is given jurisdiction over water-and-rail carriers engaged in through transportation, that assures the two fundamental prerequisites to enable the Kansas City shippers, with the improved service and conditions which they think should obtain, and which are necessary to obtain in order to get their tonnage, to deliver that tonnage to the boat line.

Senator REED. You have spoken of those figures as projected figures. Are they based upon the experience of transportation companies and upon their growth in the past, the development of the past, of this section of the country to which you are referring?

Mr. SANGSTER. The figures are built up upon the percentage which the eastbound revenue of the rail lines' eastbound traffic for 1914 bears to the traffic of the same railroads for the year 1906. As to the westbound tonnage for 1914, it is based upon the relation which the westbound tonnage of the same railroad in 1906 bore to the whole traffic for that year. We think that that is fair and logical, and that it is entirely reliable as data to support any such projection of this kind.

Senator REED. Now, if you will proceed just as rapidly as you can with this part of your testimony.

Mr. SANGSTER. The following tables, Exhibits No. 27 to 34, inclusive, have been lifted from the record in the Burnham-Hanna-Munger case above referred to, and give a complete analysis of the actual rail tonnage of the interriver lines and those serving the States of Kansas and southern Nebraska in the year 1906.

Col. NEWCOMER. Have these tables been very carefully proof read, so that they are quite reliable and have no typographical errors?

Mr. SANGSTER. I will follow that suggestion and cause them to be carefully read. They have not been checked from lack of time since they came from the printer, but I will have them checked with the records in the Burnham-Hanna-Munger case, which are in my office, and advise the board of any discrepancies noted.

Exhibit No. 36 is a computation taken from the statistics of railways of the United States published by the Interstate Commerce Commission, and that table is worthy of close study; and I desire in connection with it to refer to a reference made by Mr. Goltra at last night's session here to the effect, as I got it, that, due to the number of railroads going into the hands of the courts, and in consequence of the feeling of the St. Louis people that no cheaper rail transportation—rail charges—might be expected soon, because of which they now feel that internal water transportation must be encouraged, I wish, lest the impression be gained that the present level of rail rates is insufficient in this territory, to refer to the decision of the Interstate Commerce Commission in

the recent Western Advance Rate case (I. & S. Docket, 555), decided July 30, 1915, in which the commission analyzes the gross and net earnings of these lines. The opening statement of the syllabus reads as follows: "Showing of operating results and financial condition of respondents considered, and upon the whole held," etc. In that case they denied the proposed increase of rates in this territory, with certain exceptions, as excessive and unwarranted.

Senator REED. Now, Mr. Sangster, I wish we could take the time to go through this in detail; but you have been on the stand three-quarters of an hour, and the court is going to adjourn in an hour; and, so far as possible, I wish you would put in the tables and let them speak for themselves, because there are some other matters we must go over orally which I think are of great importance.

Mr. SANGSTER. I appreciate what you say, Senator. These tables have been prepared in direct reply to the district officer, and they are relied upon to sustain the contentions made that that report does not take proper consideration of the actual conditions; and while I shall be brief I want to be permitted to say that this testimony is directly to the point upon some of those propositions.

Senator REED. I understand that. I was only suggesting that the board would examine the documents.

Mr. SANGSTER. I am attempting to point out and explain only such particular points as I think should be emphasized in order to bring forward the importance of the exhibit.

Now, Exhibit No. 38 is a comparison of the rail rates, the lake-and-rail rates, and the canal-and-rail rates from New York City to Chicago, and the rates from Chicago to Kansas City upon certain commodity traffic.

Exhibit 39 is a statement of the same sort with respect to class rates, and following my remarks with reference to the Western Rate Advance case and the Interstate Commerce decision attention is invited to Exhibit No. 39, which shows that the rates from Chicago to Minneapolis, 420 rail miles and from Chicago to Kansas City, 451 rail miles, were in 1910 upon substantially the same plane. The rates were practically identical at that time. In the year 1915 the differences against Kansas City are as follows: First class, 20 cents; second class, 15 cents; third class, 5 cents; fourth class, 7 cents; fifth class, 7 cents; class A, 7 cents; class B, 7 cents; class C, 5 cents; class D, 4½ cents; class E, 3 cents.

The rates via the all-rail lines from New York to Chicago are given in comparison with the level of the rates from Chicago to Kansas City and also the rail-lake and canal-lake transportation.

Exhibit No. 40 gives the eastbound rates on grain from the Missouri River and Minneapolis to Chicago, from Chicago to New York, and from representative Kansas and Nebraska points to Chicago, with distances.

Exhibit No. 41 shows the lake-and-rail freights for the season of 1914 to be around 1 cent per bushel on grain from Chicago to Buffalo. It was estimated in Maj. Schulz's report, in 1908, that grain should be handled on an improved Missouri River from Kansas City to St. Louis at 1 cent per bushel, which would seem to be well fortified by the rates from Chicago to Buffalo for the greater relative distance, tonnage considered; when I say tonnage, I mean tonnage for the Missouri River in prospect. In this connection the actual movement of grain and grain products by rail from Kansas City to the East and for export has been given in Exhibits 23 to 33, and should be taken in connection with the grain movement on the Great Lakes as appears later in Exhibit No. 47.

Exhibit No. 42 shows the percentage of movement from Chicago via the Lakes of grain, and also via eastern and southeastern railroads, and demonstrates the large volume of tonnage moving by water.

In connection with Exhibit No. 44, which is a very important statement in this case of the actual tonnage traveling by the Panama Canal in the year ending September 5, 1915, and in connection with Exhibits 45 and 46 following, I desire to introduce and have marked as Exhibit 44a a statement filed by the rail lines, in the fourth section of Application No. 10172 before the Interstate Commerce Commission, which is now pending, and in which it is proposed to make further radical reductions in the rates on various products in competition with the rates of the water lines. In this statement appears the proposed rates from all territory from New York to Colorado, inclusive, to the Pacific coast terminals.

In Exhibits Nos. 45 and 46 are shown the present rates upon the same traffic and also the amount of reduction in cents per hundred pounds in those rates

which the rails lines are making. In this statement it also appears that the rates which the rail lines propose to make through from the eastern territory to the terminals substantially approximate the combination of local rates from representative producing points in the middle and eastern territory inland to the Atlantic coast, plus the Gulf port rates of the local carriers, and no lower, demonstrating that the rail lines anticipate the amendment of the fourth section, and the difficulty which they may have in increasing any of these rates and justifying them upon conditions other than the absence of water competition.

Now, Exhibits 47 and 48 are to be taken together. Exhibit 47 is a composite of the two principal tonnage exhibits introduced in the recent hearing before the Interstate Commerce Commission, I. & S. Docket 615, of the Lake lines for increased rates, lake and rail between Chicago and eastern points. Exhibit No. 48 is a computation made by Mr. Mackie, of the Kansas City Missouri River Navigation Co., and based upon the showing of the Lake lines in the case just referred to.

I wish to say that the tonnage figures shown in Exhibit No. 26 of the rail lines east for the year 1914 have been converted from carloads to tons. The statement from which those figures came was filed as Joint Agent for Carriers Kimball's Exhibit 1 in the Western Advance Rate case, I. & S. Docket 555, by the railroads. We have taken the average actual tonnage of the various commodities there shown, as found by the Interstate Commerce Commission in its decision in that case, and have reduced the carload shipments to tons by the actual average tons as found by the Interstate Commerce Commission. Nearly all of those appear in Exhibit A to the protest of Kansas City and Missouri River territory in this matter.

Senator REED. Now, Mr. Sangster, will you give in a word, if you can, your conclusions from these various statements to the board; what is the point you desire to impress?

Mr. SANGSTER. We think the tables go to justify the continuation of the improvement project of the Missouri River and to absolutely demand its early completion, as before recommended by this board; and such computations as we have made seem to have been well borne out by the testimony of other witnesses who have appeared here who were competent to testify to the commercial conditions.

Senator REED. In other words, you put these tabulations, based upon actual experience and upon the actual freight that is being carried, over against the illustration used by Col. Deakyne, which he gets from the traffic on the Mississippi River from Cairo to St. Louis?

Mr. SANGSTER. I do.

Senator REED. Where is the breaking point in rates from the East to the West?

Mr. SANGSTER. At the Mississippi River.

Senator REED. Explain to the board in a word what is meant by the "breaking point."

Mr. SANGSTER. The breaking point is the point in the rate fabrication at which the rate changes its character, and the rates upon through traffic moving via or through that point are made by adding together the separate rates to and from that point.

Senator REED. In other words, you have got a rate from the Atlantic seaboard to St. Louis, a through rate; is that right?

Mr. SANGSTER. Yes.

Senator REED. And, then, from St. Louis on west a different rate is established, is it?

Mr. SANGSTER. Yes; from St. Louis west there is an entirely different rate.

Senator REED. Is that a higher or a lower rate than from the Atlantic seaboard to St. Louis?

Mr. SANGSTER. It is a very much higher rate per mile.

Senator REED. Can you give us a concrete illustration?

Mr. SANGSTER. The first-class rate from New York City to St. Louis is 92.2 cents.

Senator REED. And what is it now from St. Louis on to Kansas City?

Mr. SANGSTER. I was trying to think of that mileage from New York to St. Louis.

Judge BLAND. About 1,127 miles.

Mr. SANGSTER. It is something over 1,000 miles; and the first-class rate from St. Louis to Kansas City is 60 cents per 100 for 277 miles by the Wabash—which is the shortest distance.

Senator REED. And a similar change in the rates runs through all the classification—a similar change?

Mr. SANGSTER. A similar change occurs in all of the other class rates which are related to the first class and in the level of the commodity rates; and I may say that the rate west and southwest of the Missouri River increases per mile over the rate between the rivers.

Senator REED. When you get to Kansas City do you reach another breaking point in rates?

Mr. SANGSTER. No, sir; the rates into Kansas are less than the Kansas City combination as established by the Interstate Commerce Commission in the State of Kansas case. They formerly were equal to a combination of rates from the East to the Mississippi River, from the Mississippi to the Missouri River, and from the Missouri River to destinaton.

Senator REED. So that it is true that the boat line operating from Kansas City to St. Louis comes into competition with the railroad rate, which is considerably higher than the eastern railroad rate?

Mr. SANGSTER. Yes.

Senator REED. At this point and in order that the board may have before it exactly the question I am driving at, I will say to the board that I make a part of it a part of Col. Deakyne's report, and it is all in, as I conceive it; I desire to read to the board, as a part of my question, a portion of paragraph 6 of Col. Deakyne's report as follows:

"I consider that the question of modifying or abandoning the project is one to be decided by a comparison of the cost involved with the benefits derived."

I now read a portion of section 14 of his report, as follows:

"There remains to be considered the question of prospective commerce, and, in my opinion, the improvement must stand or fall by this criterion. In the survey report, upon which the present project is based, the prospective commerce was given by the president of the Missouri Valley River Improvement Association as 1,000,000 tons. See page 45 of House Document No. 1120, Sixtieth Congress, second session. That estimate was based upon a 10-foot channel, with six or seven boats, especially adapted to the navigation of the Missouri River, handling cargoes of 2,000 tons each and making one round trip per week during a navigation season of 10 months."

Now, to the point:

"The fact is that anyone can make almost any estimate he sees fit as to the prospective commerce. I think a better way to approach the subject is by inquiry concerning a river that has been improved. An example is the Mississippi River between the mouth of the Ohio and the mouth of the Missouri. In the annual reports of the Chief of Engineers this stretch of river is reported as having a navigable depth of 6 feet or more during the entire navigation season of recent years. The commerce for the calendar year 1913 was 258,709 short tons, not including sand and gravel or ferry traffic. It should be noted that this stretch of river is so situated as to draw commerce from the improved stretches of the Mississippi above and below it as well as from the Ohio and Missouri. If the Mississippi under these conditions and with a 6-foot channel carries 258,000 tons, it seems to me doubtful whether the Missouri with the same depth will carry any more. The Missouri River traffic would have to increase sevenfold to equal that on the above section of the Mississippi, and would have to increase a hundredfold to reach a figure commensurate with the cost of the work."

Then follows his conclusion that it is injudicious to continue this improvement.

Senator REED. Now, what is the distance between Kansas City and St. Louis—the short-rail distance?

Mr. SANGSTER. Two hundred and seventy-seven miles.

Senator REED. And what is the distance between St. Louis and Cairo?

Mr. SANGSTER. One hundred and fifty-two miles via the Mobile & Ohio Railroad.

Senator REED. Is it fair to compare a haul of 150 miles with a haul of twice that length?

Mr. SANGSTER. Well, it is not fair in any sense, but when the Cairo mileage has no connection with the volume of through traffic——

Senator REED (interrupting). I am coming to that.

Mr. SANGSTER (continuing). It is less comparable.

Senator REED. You have already stated that Kansas City has a population of approximately 400,000 inhabitants.

Mr. SANGSTER. Yes.

Senator REED. And St. Louis has a population of about 750,000, I believe.

Mr. SANGSTER. Yes, sir.

Senator REED. And what is the population of Cairo, Ill.?

Mr. SANGSTER. Fifteen thousand five hundred and forty-eight in the 1910 census.

Senator REED. Now, can or does the traffic between a city of 750,000 people and a town of 15,000 people bear any relation to the traffic existing between two large cities like St. Louis and Kansas City?

Mr. SANGSTER. As to local traffic, absolutely none.

Senator REED. Now, why is that so?

Mr. SANGSTER. Well, there is nothing at one end to sustain the traffic; there is nothing there that produces traffic and little there to consume traffic. Traffic must be built up by factories and large industries and commercial enterprises engaged in producing commodities to transport from the place of production to the place of consumption. So that corner stone of the structure is absent when you take away one end of the route you are making a comparison with.

Senator REED. In other words, if a railroad was to run from nowhere to somewhere it could not be expected to do the business that a railroad would do that ran between two large places?

Mr. SANGSTER. Not at all. I may say in that connection that I have here certain figures showing the relation of Cairo and Kansas City.

Senator REED. I wish you would present them.

Mr. SANGSTER. I do not know that the board really needs this information, but it may go in if you want to receive it.

Senator REED. I would like to have it, because I think this is all there is of this report, and I speak respectfully of the report.

Mr. SANGSTER. In the year 1914 the population of Cairo was 15,392; the population of Kansas City was 376,182, including both Kansas Cities. In 1913 the assessed valuation of Cairo was $3,652,930; Kansas City, Mo., on the basis of 50 per cent, and Kansas City, Kans., on the basis of 100 per cent, taken together $269,187,437. The clearings for 1914 were Cairo, none, no clearing house; Kansas City, $3,015,000,000. Bank reserves 1915, Cairo, $4,473,650——

Col. WINSLOW (interrupting). Not this comparison you are making on the supposition that Cairo would be the only terminus of that traffic from St. Louis down that portion of the Mississippi River to the Ohio?

Mr. SANGSTER. We are left by the report to take that as a fact.

Col. WINSLOW. Is not that portion of the route only a section of a through route down the entire Mississippi River?

Mr. SANGSTER. Presumably so.

Chairman BLACK. It is so understood by the board. The board does not consider that as traffic between St. Louis and Cairo; it is simply a reach of the river on a through route.

Col. NEWCOMER. Connecting with the lower Mississippi River and the Ohio?

Senator REED. I understand that is in the report. I would like for the sake of having it go in the record to have these figures in, because I might not reason on this just as the board does, but I hope to do so. I am coming to another matter to supplement this in a moment. It will only take a moment to put this in.

Mr. SANGSTER. Bank reserves, Kansas City, $185,000,000. Area in acres, Cairo, 1,440; Kansas City, 48,000.

I have spoken here only of Kansas City, Mo., in all reports, except as to population.

Number of factories in 1909, Cairo, 56; Kansas City, 1,067. Total employed, Cairo, 1,444; Kansas City, 32,984. Capital utilized, Cairo, $4,853,881; Kansas City, $85,546,000. Value of manufactured products, Cairo, $4,440,148; Kansas City, $218,786,000.

Senator REED. Now, coming to the question of freight rates, you have stated there is a break in freight rates at St. Louis for westbound traffic, and that the rate becomes much higher from St. Louis west than from St. Louis east;

what is the fact with reference to the railroad rates from St. Louis south; is there the same break in rates?

Mr. SANGSTER. Do you want to know the relation of Cairo to St. Louis as a rate-breaking point, east and south?

Senator REED. Yes.

Mr. SANGSTER. St. Louis takes 170 per cent of the New York-Chicago standard all-rail rate; Cairo takes 120 per cent. Coming west the rate St. Louis to Kansas City, first class, is 60 cents; Cairo, 80 cents. I can give you all these five classes, but the lower classes are in relation to the first class. The traffic authorities there are New York Central & Hudson River, A–25,000, I. C. C. B-18,971; western trunk lines, 1–I. C. C. A–602.

St. Louis to Wichita, first class, $1.10; Cairo to Wichita, first class, $1.19½. Authority, Western Tunk Line Tariff 33–D, I. C. C. 3866.

From Cairo to Memphis, first class, 50 cents; St. Louis to Cairo, first class, 65 cents. The local rate from St. Louis to Cairo is, first class, 37.9 cents. That would indicate that the through rate from St. Louis is less than the Cairo combination by the difference in through rate and the local rate from St. Louis to Cairo. The tariff authorities there are M. P. Washburn, agent, Mississippi River Points Tariff 7, I. C. C. 119; C. E. Fulton, agent, Joint Freight Tariff 108–E, I. C. C. A–108.

The rates from St. Louis to Birmingham and Atlanta and from Cairo are not different in their construction to the rates given to Memphis; that is to say, the through rate from St. Louis is much less than the combination of locals on Cairo.

Senator REED. So, if I understand you correctly, while there is this distinct and decided break in rates from St. Louis to Kansas City, there is no such decided break on the traffic from St. Louis south along the river?

Mr. SANGSTER. There is no absolute break in the rates upon any general traffic at Cairo. There are certain exceptions.

Senator REED. I am speaking of it generally.

Mr. SANGSTER. No, sir.

Senator REED. So there is not the same inducement to put boats on the Mississippi River by reason of railroad rates as there is on the Missouri River between Kansas City and St. Louis?

Mr. SANGSTER. In a word, here is a different set of railroads leading from the East to the Mississippi River to the set of railroads leading from the Mississippi River to the Missouri River and beyond. The rates break there and the transportaton divides itself and the traffic is freed, you might say, to be transported thence via the Missouri River from St. Louis to Kansas City locally and for beyond. And the same eastbound as to grain and grain products which make upon the combination of local rates from western territory to Kansas City, and Kansas City to the Mississippi River, and thence beyond and to the southeast.

From St. Louis to Memphis and vice versa the railroads are the same through, and thereby hangs a tale. Cairo is served by four different railroads; on the east side the Mobile & Ohio and the Illinois Central; on the west by the Cotton Belt and the Missouri Pacific. The east-side lines are the Illinois Central, which has a branch line into Cairo, and the Mobile & Ohio, the main line. These lines leading up to and west of the Mississippi River are main trunk lines and their character is different at the Missouri River again and changes as it does substantially at the Mississippi River. We have the Chicago, Milwaukee & St. Paul, the Great Western, and the Chicago & Alton lines which reach the Missouri River from the east, which do not go west, and therefore we have a traffic situation and a rate adjustment conformable to the drift of the Misouri River and the course of it in this terrtory, which is not true of the Mississippi River between any local points from St. Louis south or north.

Senator REED. Have I asked you the general question, if a comparison based on the Mississippi River between St. Louis and Cairo furnishes any criterion by which you can judge either the present or the prospective business of the Missouri River?

Mr. SANGSTER. Not that I can see.

Senator REED. How many years have you been engaged in this business of studying traffic?

Mr. SANGSTER. Seventeen years.

Senator REED. What, in your opinion, is the effect of the construction of the Panama Canal upon the rate situation in the great Central West?

Mr. SANGSTER. The Middle States to-day, with the low port-to-port rates, may take advantage of the rates from thence to seaboard, plus the water-service

rates around by the canal, and effect a substantially lower rate than this section of the country. The rates between the Missouri River States and this territory, and either the Atlantic or Gulf ports, are so much higher relatively that we are entirely without the zone of sea influence and without reach of the Panama Canal. This territory can only transport traffic by water to and from the Pacific coast by means of the Missouri River; it can not do so by rail in competition with the traffic moving from port to port and tributary to the Atlantic coast.

Senator REED. Do you then regard the continuance of the improvement of the Missouri River as of vital importance, not only to the State of Missouri, but to the entire Southwest and a large portion of the West and Northwest?

Mr. SANGSTER. I consider it so from the standpoint of the trans-Mississippi Valley.

Chairman BLACK. Senator, may I ask a question?

Senator REED. Certainly.

Chairman BLACK. The previous answer of the witness as to the necessity of the navigation of the Missouri River for the purpose of affording transportation to the Pacific coast seems to be predicated on the use of the Mississippi River as well as the Missouri River. His answer as to the question of competition to the Pacific coast seems to be based on the use of water transportation on the Mississippi River as well as the Missouri. He does not mean he would have water transportation to St. Louis and then rail to New Orleans?

Senator REED. No. I will ask this question, whether the water transportation from Kansas City to St. Louis does not tend to mitigate the disadvantage to that extent?

Mr. SANGSTER. Yes; because the rates between St. Louis and New Orleans are very much less per mile than the rates between Kansas City and New Orleans, and it goes to the question of whether the rate of 80 per cent of the rail rate from Kansas City to St. Louis plus the rate by rail from there to New Orleans would so reduce the charge to that port as to enable us to meet the rates from the Atlantic coast to the Pacific, and I doubt that. I think this must be in connection with river transportation from the mouth of the Missouri River to the Gulf.

Chairman BLACK. That is what I wanted to get in the record; that was not clear.

Senator REED. Could through rates be put in from Kansas City to either coast provided there was river transportation?

Mr. SANGSTER. Yes, sir. I might say that the alternative to the Mississippi River transportation would be the route through the Illinois River and the Illinois & Michigan Drainage Canal and the Great Lakes to the Atlantic coast.

Col. ABBOT. I would like to ask—all this argument is based, as I understand it, largely on the statement that the sea-route charge from New Orleans to the Pacific coast, through the canal, is the same as from New York. Is it not possible to rectify that evident misproportion of charges, and if that was done would it not let in the central portion of the country in a very different relationship from what you have just been describing?

Mr. SANGSTER. Even if the rate were the same from Kansas City and the Missouri River as from New York by rail to the Pacific coast, that would not mitigate the disadvantage to the interior as against the Atlantic manufacturers and products and commerce. The fact is that the rates via the Panama Canal have been so radically lower from coast to coast that there is no comparison between the present relationship of the rates made by the railroads under the permission granted by the Interstate Commerce Commission and the coast-to-coast water rates, and the prior relationship when the goods were transshipped across the Isthmus. That will continue a bar on the interior until we have an outlet to tidewater and a direct connection, in my opinion.

Senator REED. I think that is all.

Mr. SANGSTER. I might add, Mr. Senator, one more thought with respect to the traffic conditions between the rivers here, the Mississippi River and the Missouri River. In the State of Kansas case the Interstate Commerce Commission found that the density of tonnage was 870,000 gross tons per mile of these railroads. Now, the density of that tonnage should be taken in connection with the previous statements upon the comparison of the Missouri River with the stretch of the Mississippi River which is used in the report, because it is well established that the three branch lines, as I have said, which serve Cairo and that locality have comparatively small tonnage.

(Witness excused.)

W. F. DECKER, called as a witness, testified:

Congressman BORLAND. You are president of the Commercial Club of Minneapolis and chairman of their River Improvement Association?

Mr. DECKER. I could have said that a week ago, but my term expired last Friday. I have been a member of the development committee for the last three years and have made quite a study of the different questions.

Congressman BORLAND. Upon the different watercourses you have investigated?

Mr. DECKER. Yes; I have been all through the Mississippi Valley.

Congressman BORLAND. And investigating terminals?

Mr. DECKER. Yes. I can say that I have been at school for the last three years trying to learn what I could learn about this matter, and the best school I have been able to find is right here in Kansas City. The experience of Kansas City and the experience of Mr. Dickey's company here have been the best object lesson that we could possibly have; and the company especially has been very courteous and generous with their information, and we have profited by it very largely.

Mr. President and gentlemen of the board, I can say about all I have to say in very few words, and I know the board is familiar with the work that is being done between Minneapolis and St. Paul, a distance of 600 miles from this project; but we are interested in the development of the whole Mississippi Valley, and we would feel it was a great calamity to have this work cease on the Missouri River. We regard that as a very important branch of the Mississippi system, and it will be of great service to us, of course, as we get navigation to Minneapolis, to be able to have a channel to Kansas City. We are a producing point and the Southwest is one of our best markets, especially for farm machinery. We make a great many tractors and machinery of that kind which can go down the Mississippi River and up the Missouri River to Kansas City; and that probably would be the chief product that we would send in this direction. Of course our grain and flour goes east and west mostly—mostly east, down through the Lakes. So that the river is not, probably, going to help us so much in that line. But they are making a great many products that are used in Minneapolis and a large output of Minneapolis that naturally goes north and south; of course not so much as going east and west, but we expect to use the river very largely when the Government improvement is completed.

Now our city has taken this much interest in this navigation problem. We have not had a boat to Minneapolis in 50 years. In the early days the boats used to come up there and some of our early merchants took their goods from Pittsburgh to Minneapolis all the way by water. But after the sawmills got started there and filled up the channels with edgings and sawdust, and after the railroads came, they ceased to use the river; but now the Government is spending $2,000,000 between the two cities, and when the high dam is completed at Fort Snelling we will have a good channel to Minneapolis and any boat able to navigate anywhere on the Mississippi system will be able to come to Minneapolis and we will be at the head of navigation on the main river. I might say that that work by the Government is about 90 per cent completed, and we expect some time next year to be enjoying the benefit of navigation.

The city has gone this far: $300,000 of bonds have been authorized for terminal purposes and the city has already expended over $100,000 in adding to its area—the old levee was very small; and they have purchased 24 lots additional to that and have built a wall 1,340 feet long, which is entirely completed, and now the grading is being done, and as fast as commerce develops terminal facilities will be provided.

Our people feel, as Kansas City people feel, I think, that these developments should go on gradually as the need is apparent. We will have the harbor and the wall all complete and plenty of ground to make the development, and the city is disposed to put in terminal facilities and handling facilities as they are needed. And we are disposed to go right ahead with that work and we would feel it a very great calamity if anything should happen to prevent the development of any part of the system, especially this channel to Kansas City.

Judge BLAND. You have already taken steps to acquire your terminal ground there?

Mr. DECKER. Yes; it has already been purchased.

Judge BLAND. Yes; you showed it to me.

Mr. DECKER. We have an area of about 6 acres, including the marginal streets. Those are already improved.

Judge BLAND. Right in the central part of Minneapolis?

Mr. DECKER. Well, it is at the foot of Washington Avenue, one of our principal streets.

(Witness excused.)

Judge BLAND. In order that we may adjourn promptly, I will suggest that while I intended to testify myself, I can probably put it better in writing, under the permission of the board. Senator Reed wants to say something and perhaps Mr. Borland and perhaps myself if we have time. We can proceed with the arguments at the convenience of the board.

Chairman BLACK. Very well, we will be glad to hear you.

Senator REED. If the board please, I am very sorry that Judge Bland is not to give formal testimony here. There is no man in Kansas City that has studied these subjects more closely than he has. I am very sorry that we have so few minutes left, because I wanted to present this matter in a broader way than it can be presented by a single witness testifying with reference to a single point. What I say is a mere skeleton outline.

First, it has been asked how it happened that this project of the improvement of the Missouri River, which has been reported on three times, is again brought before a board of engineers. I can answer that and answer it at first-hand.

In the last session of Congress a filibuster occurred in the Senate to prevent the passage of the ship purchase bill. The most active member in that filibuster was Senator Burton of Ohio. One of the means employed was to discuss the rivers and harbors bill at great length, Mr. Burton delivering himself upon that or other subjects, in speeches running from 5½ hours to, I believe, 13½ hours in length. There was the fixed determination to defeat that bill, which consumed the time up to the very last days of Congress, and Congress adjourned by operation of law on the 4th of March. It therefore became apparent that we could not, in the face of any opposition whatsoever, pass even a general appropriation for the rivers and harbors. Any one man could stand up and talk the bill to death. Under those circumstances Mr. Burton insisted on adding this clause demanding the reexamination of certain rivers, and served notice upon us that unless that clause went in he would talk the entire bill to death; and he had it in his power so to do. He said to me personally that unless it went in he proposed to fight the bill to the extent of his ability, and we all knew what that meant.

Therefore, simply because we had to pass a supply bill, it was passed in this form; and I do not believe there was another man in the Senate of the United States that wanted a resubmission of a matter that had been three times passed upon by boards of engineers. The project had also been formally approved by Congress after full consideration in the Commerce Committee and by the Committee on Rivers and Harbors in the House and by both Houses of Congress, so that is the reason that we are here to-day.

The second observation I want to make is, and I criticize nobody, but I wish to say that no hearings were given upon this project by Col. Deakyne. The facts are that this bill passed Congress on the 4th of March. It was signed on the 4th of March. On the 8th of April Col. Deakyne sent out a notice relating to the upper Missouri. On the 22d of April Col. Deakyne made this report recommending the overturning of all that Congress had done and all that previous boards had recommended. No new survey was made; no other investigation made that I know of except such as came to Col. Deakyne from his knowledge obtained in working upon the river. The merchants, the manufacturers, the shippers, the farmers, were not called before Col. Deakyne to gather testimony and present their side of the case.

I am confident if Col. Deakyne had heard the evidence that has been here presented, he would have at least hesitated about making this report or this recommendation. Now, I say that without the slightest thought of criticizing or speaking unpleasantly. I have had occasion to meet Col. Deakyne on numerous occasions numerous times and have always received from him the utmost courtesy of treatment as, I think, all our other people have.

Now, I come to this report. I had intended to point out what I considered the improper premise from which Col. Deakyne proceeds and to show that in many respects this premise was faulty; but in the little time that I have here I want to emphasize this fact and challenge this board to read Col. Deakyne's report and then answer me the question whether the solitary reason that he advances for the abandonment of the Missouri River is not found in section 14? And that solitary and only reason is that in his opinion there is not

enough business upon the Mississippi River from the little town of Cairo, Ill., to St. Louis, to warrant him in concluding that there will be business upon the Missouri River; for he takes the position that we are not to judge this project by what has been done, and manifestly that is fair, but by the traffic that will come; and he proceeds to say that that traffic will not come, solely and only because there is only a little over 288,000 tons moved between Cairo and the city of St. Louis.

Now, let's see. First, the haul is one-half in length; second, you are hauling to a town that has no business of any importance. Consequently the comparison between the two terminals, the comparison between the two hauls, is so utterly out of relation that no man ought to form an opinion in regard to an important matter upon any such basis.

Second, it is shown that there is a break in the railroad rates between St. Louis and Kansas City by virtue of which the rate from St. Louis west becomes excessively high or exceedingly high, whereas there is no such break in railroad rates between Cairo and St. Louis. That one fact alone might mean the difference between the establishment of a business upon the river and the nonestablishment of a business; and that one fact alone is sufficient to cause any prudent man, when it is once called to his attention, to hesitate to act upon it. Why didn't Col Deakyne—or would it not have been fair for Col. Deakyne to find that this project would as manifestly and inevitably be a success because river transportation was a success upon the Ohio and because river transportation was a success upon many rivers? Why is the one single failure picked out and used as a demonstration to destroy an enterprise in which there are already millions of dollars invested? I am sure that Col. Deakyne overlooked these matters.

Now, I can only mention this. I would like to go into detail and argue it. I can argue it so conclusively, if I had the time to put in facts and figures, as to show that there is absolutely no parallel between these two matters that he lays down as parallels. And with that out of the way there is not a single reason advanced back of this report, and it can not be found in the report.

I call your attention to another thing: When has it happened that the precedent is to be established in this country that before we improve the waterways of the country we are going to charge up the interest on the Government's investment against the improvement? When has that ever happened before in the history of the United States? Have we done it in the improvement of the river? Did we do it when we built the Panama Canal? Have we done it when we improved our harbors, or have we taken the bigger and broader view that that work makes for commerce and pays back to the Government of the United States in the general benefit and in the common weal a thousandfold of all we expend?

Then I call attention to another thing that Col. Deakyne says. He says we are going to keep snag boats on this river. Why keep snag boats on this river or spend $40,000 to keep a snag boat on a river that we are going to abandon? I confess, speaking with the utmost respect and at the same time with that candor which the circumstances demand, that an analysis of this report is all that is necessary to set the report aside.

Now, I want to speak of this question from a broader standpoint in the moment or two that I may still have. The gentleman who puts himself in the way of the improvement of the rivers and harbors and transportation facilities of the United States to-day, puts himself in the way of the great tide that is moving with resistless force and that will never stop until this Nation shall have done its full duty by the people of the Nation. We are going to connect the Great Lakes with the Gulf as inevitably as we are going ultimately, each of us, to our graves. It is so written in the hearts of the people of the United States, and there is not a community in the United States that has a live man in it that does not know that fact. Commerce must go back upon these rivers and upon these great waterways for two fundamental reasons:

First, the railroads have proven themselves inefficient to carry the commerce of this country at all times and at all seasons. No less an authority than James J. Hill can be cited in proof of that. Mr. Hill told this country some three or four years ago that it would require the double-tracking of nearly all the railroads of the United States to handle the commerce of the United States, and that the outlet, and the proper outlet, was the rivers of the country. He certainly is not an enemy of the railroads.

Second, it is necessary to have competition between water and rail, in order that two things may result, first, that there shall be a lowering of rates, and particularly that there shall be a lowering of rates upon those coarse articles, or slow freights, that can be carried upon water cheaper than they can be carried upon railroads.

Now, we come to the question of the Panama Canal. I put it to this committee whether there is any justification to be found in the logic or any reason for building a canal hundreds of miles from our shores for the purpose of encouraging ocean transportation, and then having that canal, which must be paid for by the taxes of all the people of the United States, including the people of the Central West, so utilized as to destroy the industries of this great Central West. And I put it to you whether the Secretary of the Treasury, Mr. McAdoo, was not right when he said, in Kansas City a few days ago, that it was inexcusable—he said it in substance, not in words—to try and stop the improvement of these rivers, but that the Missouri and the Mississippi Rivers ought to be extended to and through the Panama Canal.

I have one further observation to make. You can not successfully improve the Mississippi River and restore commerce upon it without having some care of the Missouri River, first, because the commerce can not be maintained on short stretches of river successfully.

If commerce is to be restored to the rivers it must be restored as a great system, and the marvel and miracle of it all is that we have come so nearly being able here to maintain a boat line simply between Kansas City and St. Louis. What a difference there would be in our traffic arrangements if boats were plying upon the Mississippi, and what poor logic it is to say that because boats are not now upon the Mississippi River that they never will be there. You might as well kill the Missouri River, or have killed it a few years ago, by saying there ought to be boats on the Missouri and there are none there. There must be a start made, and a start has been made here by our citizens, and their hard money has gone into this, and it went in under what is substantially a contract with the Government of the United States, for the Government said, "Go back and put the boats on the river, and we will then give you the improvements."

Now, I have one further observation to make. You can not pour the silt of the Missouri River, with its unprotected banks, into the Mississippi River without causing great difficulty. I merely call attenton to that. This board of engineers knows that question very thoroughly. If you were to take Col. Deakyne's report and adopt it, and let all the revetment work and all the dam work be swept out of the Missouri, as it will be in a few years if not further protected, you will simply have acres and acres of this soil melted into that stream and borne down into the Mississippi.

The question, therefore, is, Are you going to abandon all river transportation? There is scarcely any river in the United States to-day that, if you took Col. Deakyne's method of figuring and charged up the interest of the Government money and charged up no benefits on the other side that would arise through equalization of railroad rates, figuring only one side of the problem, there is scarcely a river in the United States that you would not have to abandon, if you consistently followed that logic—scarcely one. If it is proposed to strike a deathblow to this enterprise, then understand that that logic will drive you to a similar course upon all or nearly all the other rivers of the United States.

Now, we have reached a point where we are about to build up this great work. The Government has expended its millions of dollars, and I say that to undertake at this time to assassinate this project is to assassinate the enterprise of the great Central West. I have this further observation to make, and I put it to you Army engineers who have been the schoolboys in the past in the schools of the Government of the United States and have devoted your lives to this service, whether there are not other questions that can be justly taken into consideration, if, indeed, there is any doubt about this question.

First, a question that has nothing to do with military matters, but whether, when you come to improve a stream for commerce, while that is primarily the reason for the improvement, you can not but take into consideration the fact that that improvement, made for the benefit of commerce, will also result for the benefit of the wealth and agriculture and resources of a country. Certainly, if it does so result it ought not to be an argument against the enterprise.

But I present another view to you, and that is that this Government is directly interested in these streams, from the standpoint of the great question

of the protection of the Government itself. We have arrived at the birth, apparently, of a new policy in the United States—that of increasing our armament, increasing our Navy, increasing our Army, so that we may protect this land if it is assaulted from without. Do I need to suggest, then, to a board of Army engineers that it is a question to be vitally considered, whether these great arteries that run from the Gulf of Mexico clear to the Rocky Mountains will be opened to business and commerce, and whether that is of importance to our Government and to our people?

If a foreign enemy was to land upon the Atlantic coast and was to secure the possession of the terminals of the railroads there, and if it was necessary for us to get provisions either in or out or supplies in or out, how gladly would we welcome a fleet of boats sailing between the protected banks of the Mississippi and the Missouri Rivers. When you come to the movement of great bodies of troops for the protection of this country, how gladly would you men in such an hour as that turn to these great streams if you had a fleet of boats upon them and how you would regret the fact that because somebody could not figure out in dollars and cents the interest upon the Government's money, that you had allowed these streams to go into disuse. I do not propose to pursue that matter, because I think the suggestion of it to men who have studied matters military is all sufficient.

Then I have this further and final thought. We are constantly being tested here by what we have done. By what we have done upon what? A stream admittedly unfit for navigation; upon a stream which we are told is not worthy of the expenditure necessary to make it navigable. And yet we are tested by what we had to accomplish on that. It reminds me of the old story:

Mother, may I go out to swim?
Oh, yes, my darling daughter;
Just hang your clothes on a hickory limb,
But don't go near the water.

The poor girl was expected to learn to swim without getting to the place where she could swim; and we have been required to put a boat line upon this river with all its snags, with all its obstructions, with all its difficulties, and utterly unfit for commerce; and we are being tested as to our swimming capacity to-day under all those circumstances. I will say this project, gentlemen, has been approved by Congress; it has been approved in spirit time and time again; it has been reported on by our Army engineers, and has received the approval of those who have given it exhaustive examination. It has been approved after full hearing, such as had been had by this board, not the mere opinion inadvised of just one man. Now, I do not reflect upon his intelligence or upon his candor or upon his manhood or his honesty;-but I do say no man carries around in the dome of his brain all there is of information or all there is of knowledge. No man should undertake to settle these questions without such a hearing as you have had here. We have had one day's time—nearly two days now—and you have been most patient; but we could stand here from now until next January heaping up the kind of evidence that has been put in before this board; and I say to you that when you come to consider this matter, and I am appealing not alone for Kansas City, not alone for the State of Missouri, but for the great West and Southwest, which find in Kansas City and St. Louis the two great markets to which they go for all their supplies and for the markets where they sell that which they produce—I am appealing in the name of New Mexico, I am appealing in the name of Oklahoma, I am appealing in the name of Kansas, I am appealing in the name of Nebraska, I am appealing in the name of northern Texas—all that vast stretch of territory, a domain that is almost inconceivable and that finds its freight situation and its future destiny as a manufacturing and industrial and distributing country dependent upon transportation rates.

I say to you, let us have this thing settled once and for all. It is true, as has been urged by these men, that the security of the matter is essential and absolutely essential to business investment; and I did not think at the time that we allowed this amendment to go on in the Senate of the fact that it would so stir up in the minds of our business men a feeling of unrest and suspicion, and cause them to delay, as it has caused them to delay, or I would almost have been willing to have accepted Mr. Burton's challenge, and let the bill fail, even although the President would have been compelled to call Congress in extra session. If we can have it once and for all settled that the Missouri is to be improved, that the Mississippi is to be improved, and that men can invest

their thousands or their millions upon an absolute assurance that the question is forever settled and at rest, I say to you that the necessities—the business necessities, the economic necessities—coupled with the enterprise of the people of this country, will put boats back upon the river, and we will have a real river transportation. (Applause.)

Congressman BORLAND. Mr. President and members of the board, I had intended to call attention to a few points in summing up——

Chairman BLACK. Go ahead.

Congressman BORLAND. I do not wish to trespass upon the patience of the board, but with your indulgence I will say a few words.

This summing up of Senator Reed's has so thoroughly and forcibly covered the ground that it has made unnecessary the further presentation of the evidence.

You are here to reexamine the river by virtue of the provision of the act of March 4, 1915, that the Missouri River be examined according to law, with a view to determining whether this improvement project should be modified or abandoned. It might be assumed from that, and very naturally was assumed, that some conditions had occurred since the adoption of the river-improvement project by Congress that had shown the inadvisability of that adoption. I think it is more proper to assume, not being in the confidence of those who drew the amendment, but being in confidence more myself of those who must have voted for it, that it was more advisable to assume that Congress desired to know from an engineering standpoint the success of the project it had adopted. Because if this hearing has demonstrated anything to this board it has demonstrated that not a single factor upon which Congress relied in its adoption of the project has either been modified or disappeared from the situation.

Congress acted not hastily nor casually nor in a blanket measure, but acted upon the Missouri River proposition deliberately and after a careful examination and reexamination of the facts that justify it. This agitation was begun in 1907, continued before Congress in 1908, continued again in 1909, when I became a Member of Congress. By 1910 we had the report of the district officer, Capt. Schulz, and then Congress did not adopt the project, on account of the opposition of those who were opposed to the improvement of the Missouri River, but authorized a reexamination from an engineering standpoint of the feasibility and propriety of the improvement. And after that careful foundation has been laid and the report of that reexamination has been received, Congress, in 1912, adopted the project. Therefore, it has not proceeded without the most ample consideration of the factors entering into it. Those factors were based upon the prospective commerce and the tonnage of nearly a decade ago—the figures of 1906, compiled by the district officer and embraced in his report. Those figures never reached to exceed 5,000,000 tons of freight moving through the Kansas City gateway. To-day that tonnage has more than doubled, so that factor is more than doubled.

The distribution of commodities from Kansas City, from St. Louis, has grown in comparison. The surplus agricultural products and their value have grown in comparison. The relation between the railway carriers and the traffic to be carried has become more acute as the years have gone, and every factor that was before Congress relating to the commercial importance of the river still exists with added importance and added force. And in addition to that is the factor that is new in the situation and that so much has been said about—the Panama Canal—and which, therefore, I will not dwell upon at this time.

Now, you have, in addition to that, the opportunity of a hearing that was not possible when Congress adopted the project. You have now the test of the river from the standpoint of actual navigation upon, as the Senator says, a partially improved river, which may not be fit for our navigation. But you have seen the eagerness with which the shipping public of Kansas City has seized upon the facilities as fast as they were offered; and you have seen that the measure of use that they have made of the traffic facilities upon the river has been bounded only by the facilities furnished by the single boat line operating upon the river here, and that those facilities have been held down; that no extravagance has been indulged in by business men in control of that situation and of that company, but their facilities have proceeded in the most conservative growth, far behind the demand of the commercial interests here; that they have not attempted to keep faith with the demand for river transportation by the shipper, but that they have held it down to keep themselves within the bounds set by the improvement of the river by the Government; that there is no other factor

holding them down to-day; that if their capital to-day could be all invested in boats adapted to the present improvement of the Missouri River, by the time the Missouri River was fully improved new capitalization would be needed, and that new capitalization, if the present rate of increase keeps up, could be raised by additional capital stock or by bond.

You have seen also that this hearing comes not to a proposed project as the consideration of Congress did in 1912, but it comes to a project which has demonstrated for three seasons an increasing traffic and a project which has solved successfully, as we think, all of the incidental problems necessary to the successful restoration of river commerce in the United States. You have had analyzed in the most careful way, and by men whose words carried the conviction of their ability to speak, the factors necessary for the restoration of river commerce, the development of terminals, the development of water craft from the naval architect's viewpoint; the development of power in relation to the load to be pushed; the development of terminals; the handling by power instead of by hand of the freight from boat to dock and dock to boat; the elimination of marine insurance; the articulation of the rail-and-water lines; the absorption of switching charges to manufacturers and industries not directly located in connection with the river terminals; and every one of those factors is just as important to the solution of this problem as the maintenance of the channel itself; and every one of them depends upon a continued effort, because above and beyond all of them is the sustaining power of the confidence of the business public that a public channel of transportation has been created and that the river has become a permanent factor in the commercial interests of the valley.

Now, we have not expected to influence traffic or to pound down rates or to perform any legerdemain by the running of a casual boat. Whatever may have been done in other cases, we have approached this subject under the firm conviction that it was necessary not to make potential water competition, but actual water traffic, and the traffic must be based upon a natural and normal growth. In other words, the question of sentiment has disappeared from this proposition, so far as the shippers of the Missouri Valley are concerned, and these boat line officials are willing to approach the business public of the Missouri Valley upon the basis of service, and service alone; and that service is not measured by any classification, but includes from the highest to the lowest, the most fragile and valuable freight down to the heaviest materials. They have covered the entire subject. They have gone completely through the list of freight and analyzed business conditions to adapt water transportation to them. I will undertake to say that that evidence has not been before the board in any other case.

Now, I simply want to say, in conclusion, and to reiterate what has been said so well by the Senator, that this project having been so carefully considered at its inception and having been examined by you gentlemen in accordance with law under the authority of this act of Congress, if you now, with this all before you, disapprove the report of the district officer and find these facts have justified the commercial importance of the improvement of the Missouri River and of the feasibility of that improvement from an engineering standpoint, you will have placed the water transportation of this country upon a firm basis, and that is absolutely essential to water transportation in this country.

The greatest element now entering into successful restoration of water competition and water transportation is the confidence of the business public that it is becoming, and has become, a permanent feature in their transportation arrangements. And as long as this matter is uncertain, as long as it is a question of appeals to Congress every time $1,000,000 or $600,000 or $800,000 is necessary, these men are laboring under a handicap which is almost insurmountable and which would not have been surmounted but for the spur of necessity that has been upon them. They have sacrificed their own means and risked their own capital to demonstrate to the country the necessity of this and the possibility of it, and they are now at some stage entitled to a confident report, justifying and putting upon a firm basis the efforts toward the renewal of water transportation in this country; and an adverse report will have precisely the opposite effect. It will have the effect of blighting water transportation in every line in this country. Inland water transportation depends upon the decision in the Missouri case, and nothing could exemplify that more than the universal and keen interest which has been taken by the gentlemen who have come here clear from Minneapolis and from New Orleans and from Joliet to this hearing at Kansas City, not because they are not commercial rivals of Kansas City, but because they realize very fully as business men that upon

the fate of this hearing depends the fate of inland waterways in the United States; and no man here, following the language of the Waterways Commission, Senator Burton's commission, and the language of James J. Hill, "No man here can measure the expansion of American commerce."

If we had been asked in 1906 to guarantee that there would be 11,000,000 tons of traffic through the Kansas City gateway instead of 5,000,000, there would not have been a man who would have risked his reputation in making such an assertion. If any man had been asked 25 years ago to estimate the railroad tonnage of the traffic ways of the Mississippi, there is not a man would have risked his reputation by naming the sum which is now actually carried. If any man who was connected with the transcontinental railroads, the land-grant railroads, had been asked to say how much those roads would have carried in the next quarter of a century after they were built, not a man would have been wild enough to have come within hailing distance of the truth. Commerce follows facilities. The time has long gone by when commerce must precede facilities. Facilities create commerce, and they have created commerce in this case. And we could pile up here evidence for a week of business men here who have adapted their business to the creation of this very facility. We have two cases here at Waverly, Mo., about prospective manufacturing industry moving from New Haven, Conn., based entirely upon the facilities to be furnished by the boat-line company. So we ask of you after this hearing certain findings of fact which I am going to ask leave to submit to the board and which we believe are fully justified by the evidence. If justified by the evidence, they will result in permanent approval of this proposed improvement and its speedy and successful completion by the Government. [Applause.]

Mr. DICKEY. Just a few moments. We want to hear from Judge Bland, the chairman of our committee.

Judge BLAND. Mr. Chairman and gentlemen of the board, I shall take but a moment of your time and will eliminate anything that might go into detail.

You have heard from our Senator and from our Congressman. I am a part of the business element of this community—a wholesaler—and I think I am acquainted with the business conditions. I have been interested in this project ever since its first inception. I want to present a bird's-eye view of the situation in which we are and leave it, if you will grant me a few moments of your time.

Rebates were given to large shippers, running from 25 to 40 per cent, some years ago. As a matter of fact, it is of such common knowledge that the courts would take judicial notice. The statute of limitations has run, and I can make that statement; but it is a fact that large concerns received throughout this territory rebates from the railroads to the extent of 25 to 40 per cent, and presumably the roads made money upon that basis, and that was upon the vast tonnage of freight that came into this territory.

When those rebates were withdrawn we were confronted, not with an accentuated condition resulting from the completion of a Panama Canal, but were confronted with rates to which we had not been accustomed, and which established a new basis on which we had to do business in this territory. That applied to factories and wholesale houses. The business element then commenced to cast about for relief from that condition and looked toward the Missouri River; and we then presented the matter to Congress after repeated visits to Washington and to the Rivers and Harbors Committee, and I have here the printed proceedings that were had before the Rivers and Harbors Committee, and we were asked by Mr. Cassidy, who was from Mr. Burton's district and succeeded him in Congress, "Suppose we appropriate $1,000,000 or $2,000,000 or $10,000,000 to the Missouri River, what assurance then is there that any practical benefit will result or that you will make use of that river?" And we said to him then that the word "failure" had never been written after any concerted effort by the citizens of Kansas City in undertaking and consummating any great public movement, and we assured him then that we would return to Kansas City, and the hearing was on the 5th of April, 1910, and would raise the minimum capital of $1,000,000, which was then contemplated for the establishment of terminals and equipping boats and barges. They appropriated $1,000,000 upon the recommendation of the Rivers and Harbors Committee.

Within 25 days after the hearing before the Rivers and Harbors Committee we had begun the campaign to raise this capital of $1,000,000. It commenced on March 1, 1910, and 30 days after—on March 31—the subscriptions had reached $1,238,000, and that promise was redeemed. And in this same connection let me say this, that if the improvement of the Missouri is continued after we have

a completed or finished channel, and if we have not sufficient equipment, and if we have demonstrated, as I believe every member of this board believes, and must believe, that we have demonstrated, that we can operate this river successfully at a profit with 20 per cent freight differential. If we demonstrate that, as we believe and know we can, there will be no trouble in again appealing to the business interests of Kansas City and the manufacturing interests, and the interests adjacent, to increase that capital and purchase boats that will not only operate to carry to the maximum of our capacity now—about 700,000 tons—but double that capacity. So that the question of capital will be eliminated, provided that we are given a completed channel. We have not the slightest misgiving about that. Conditions now are not as they were when we started out on the campaign. We have convinced our people—our manufacturers, our wholesalers, our bankers—that we can operate on this river and can do it successfully.

With business men of the type of Mr. Dickey and these others whom you have seen here—and they are wholesalers and manufacturers who have given their time—and you have before you the accumulated weight of the opinion of all those men, because they would not have subscribed the money and made the effort unless they were convinced this could be a successful undertaking. You have got that opinion; the best evidence of a man's opinion is that he invests his money in and engages in an undertaking. That shows his conviction that it is a practicable undertaking. And it is not only practicable, but it is absolutely vital and imperative to this territory. Now, you have, upon the one side, the opinion of all those men, and you have, upon the other side, the opinion of the district officer that the commercial possibilities do not justify continuing that work. I submit that the preponderance of evidence is all on one side.

At the time we undertook this campaign, gentlemen, we did not even know the type of boats; we did not know the type of barges; we did not know that we would use towboats and barges; we did not know but that we might be driven to the use of the old texas-deck steamboat; but we were determined to carve out the way and to work out a successful result. We had no pilots, no lights, no fair river; and I might go into full details, but I do not wish to consume your time.

But, with that condition then prevailing, we undertook to organize, and did organize, that boat line with a view to prevent its purchase by any hostile interest at any time in the future. That is prevented absolutely by this sort of an organization: There are $2,000 of common stock held by 13 trustees, representatives of the different lines of business in Kansas City. You have seen some of the directors here—Mr. Volker, Mr. Smith, Mr. Dickey, and others—who have testified here generally. Now, that board of directors is self-perpetuating. No man may sell the common stock. If he does, it vests immediately in the other 12 trustees, and the other 12 trustees may place the stock in the hands of his successor, and that successor will be selected with care and judgment. And if it develops at any time that any man occupies a hostile attitude, his stock may be called by the other 12 trustees and placed in the hands of another party. So it is perpetual and continuous only and finally in the hands of the 13 trustees. The $1,238,000 of preferred stock has no voting power or voice in the management of the corporation. That power is vested eternally and everlastingly in the 13 trustees, who are succeeded, as vacancies occur upon the board, in the manner that I have suggested. And there is no time in the future, proximate or remote, when any hostile interest can ever acquire the control or management or manipulation of the boat-line company.

Now, there is one other reason assigned in the district officer's report to which I wish to call attention as a reason for abandoning the improvement of the Missouri River. Without reading it, I will quote it in substance. It says that there is no question that towns having water transportation are for that reason able to secure lower rates than other places having no water transportation and requiring equal rail haul. It is my understanding that this condition is recognized by the Interstate Commerce Commission. And the district officer was correct in that. He then argued that it is frequently best that if the improvement of the river gives lower rail rates, that would justify the improvement, even if the river never carried a ton of freight. This might be so, if there were no other methods of controlling railroad rates; but in these days when railroads claim that they are being regulated too much there appears to be no lack of governmental machinery for controlling them, and it does not seem necessary to spend $20,000,000 to bring about a proper rail rate between Kansas City and St. Louis.

Absolutely it is erroneous in its entirety, so far as it refers to the power of the Interstate Commerce Commission. You gentlemen know, and I know you know, that the Interstate Commerce Commission has no affirmative power on earth to compel a railroad to reduce a rate. It can not compel it to reduce that rate to meet water competition, but the privilege may be given to the road to reduce the rates to meet water competition. So that you can not bring about this adjustment of rates by the action of the Interstate Commerce Commission, and the only method that we have to influence that rate or, if it does not influence the rate, to secure a reasonable rate for the manufacturers and jobbers in this great central section of the country, is by the use of the river. If we only use it to St. Louis, it will give relief pro tanto; if we use it to the Gulf, it will give greater and better relief; but that is the only medium of relief which this great central and rich producing area of the United States can resort to, and it is the producing area of this country—the greatest producing area in the world. It carries in the greater Mississippi Valley the very important centers of population, of manufacture, of the production of lead, and all the different staple products of the world are right here in this valley. So that here, if it is important that the system be improved in any section, in any place, it is more important in the greater Mississippi Valley.

Now, then, if we are deserted at this time, after we have progressed and demonstrated that this enterprise will be a successful one, after we have demonstrated the absolute and vital necessity of it, and this, too, after we have invested hundreds of thousands of dollars and the Government has invested millions of dollars, there could be no greater blight placed upon all this great area of country, and it is an infinite responsibility that rests upon the Army board and upon Congress if it shall be exercised to the extent of depriving the central area of the United States of the benefits which we may enjoy by reason of the Panama Canal, and which we may enjoy because the great Creator of this country has placed within our reach these avenues and arteries of commerce. It is a matter of such serious moment that we can not emphasize it sufficiently. We have done everything within our power to secure this result. We are very confident that when we are carrying any considerable tonnage, as indicated by one of the gentlemen of the board, amounting to several hundred thousand tons, that the railroads will recognize us as a vast factor in rate making for this territory. There is no question about that.

As a matter of fact, the testimony before the Interstate Commerce Commission shows that they are now recognizing us as a factor, and if we carry this considerable tonnage there is no question but that we will secure even better rates. And if we secure only the rates we are enjoying by the differential established by the boat line, it will run into thousands and thousands of dollars; and if we enjoy the other rates by rail, brought about by the competition of the boat line, it will run into a sum absolutely astounding and stupendous. So we submit to you gentlemen upon this full hearing, and we thank you for the courtesy and the consideration shown here, that this question is the pivotal one that will regulate and determine the question of the future of the inland waterways of this country. The engineering boards of the United States Government have always been friends of inland waterway development. And there is a member of your board now who was a member of the reviewing board that was sent out to examine this project and determine whether or not, from an engineering standpoint, it should be approved of, and who reported affirmatively in that relation; and Gen. Bixby, Col. Townsend, Col. Abbot, and Col. Keller, and these other gentlemen who have been here have investigated the question from an engineering standpoint. But we take it now, under this report, with you the issue is not an engineering problem but a commercial problem; and we have come to you and shown to you this statement of the tonnage possible upon this river made by the district officer is entirely erroneous.

Do any of you gentlemen have any doubt in your minds, after hearing the testimony of the heads of these different business houses in Kansas City that control the destinies of their respective houses and have made their statements and promises before you that they can give this tonnage to the boat line company—have you any doubt but that it will receive that tonnage? It is receiving it, and with the better improved conditions that will exist when you shall have completed this work upon the river, the tonnage will be handled by the boat line company to such an extent that it will compel it to increase its carrying capacity. There is no question about that in our minds, and we hope there is none in yours. If that be true, then the question of tonnage may be considered

as settled in this proposition, and we hope that you gentlemen, when you have examined this record and considered it in its entirety, will see the correctness of our position, which has never been stronger than it is to-day, and that there were never such reasons as there are to-day for the improvement of this river, which has been so many times approved by your honorable board, and once by Congress itself. [Applause.]

We are very much obliged to you gentlemen for your patience and consideration and kindness.

Chairman BLACK. The meeting is adjourned, and the board is much obliged to you gentlemen for the information we have received.

[For index to above hearing see pages 154 and 155.]

○

LRBJe'16

Deacidified using the Bookkeeper process.
Neutralizing agent: Magnesium Oxide
Treatment Date: March 2011

PreservationTechnologies
A WORLD LEADER IN COLLECTIONS PRESERVATION
111 Thomson Park Drive
Cranberry Township, PA 16066
(724) 779-2111

LIBRARY OF CONGRESS
0 021 654 677 5